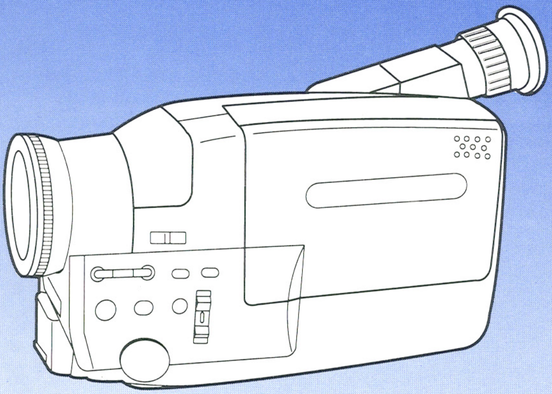
SAMSUNG

8mm CAMCORDER
VP-J52

8

SERVICE Manual

8mm CAMCORDER



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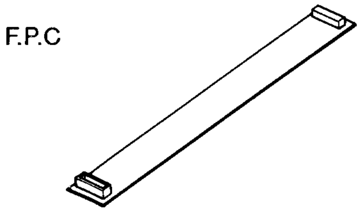
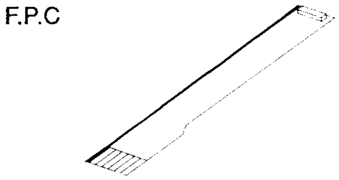
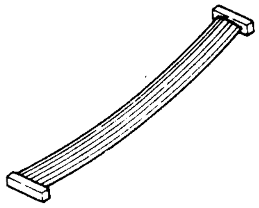
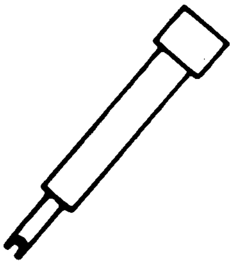
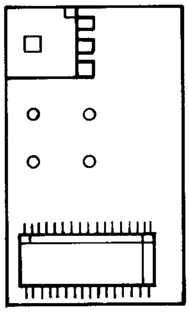
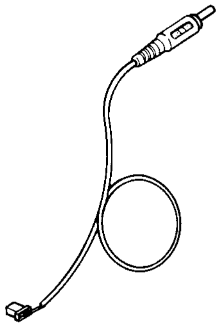
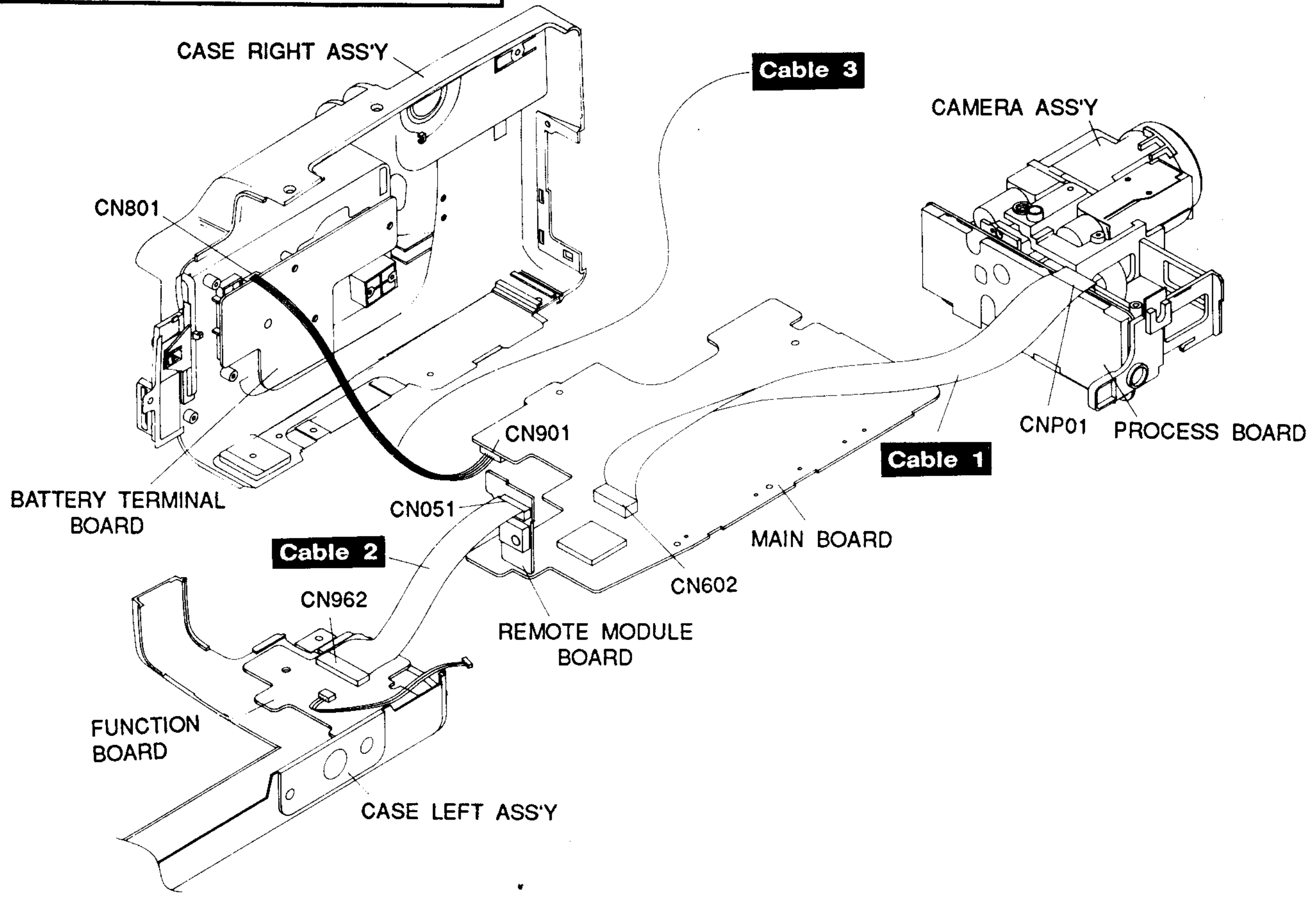
SERVICING JIGS

Part NO.	JIG ITEM	SPECIFICATION	DESCRIPTION					REMARKS
			Main Board	Process Board	Battery Terminal Board	Function Board	Remote Module Board	
68140-500-007	Extension Cable 1	Pin 30	CN602 ◄	► CNP01				Troubleshooting
68140-500-012	Extension Cable 2	Pin 16				CN962 ◄	► CN051	Troubleshooting
63053-916-554	Extension Cable 3	Pin 5	CN901 ◄		► CN801			Troubleshooting
68140-200-113	Guide Roller Adjusting Driver	-	; Use for height adjustment of Guide Roller for envelope linearity adjustment.					For transport adjustment
68140-500-011	TP Board	-	; Use for adjustment of VCR Section. (Connect TP board to connector CTP101 of Main board)					For VCR section adjustment
68140-200-122	Video Signal Input Cable	-	; Use for color bar signal input cable of connector V-IN of TP board.					For VCR section adjustment

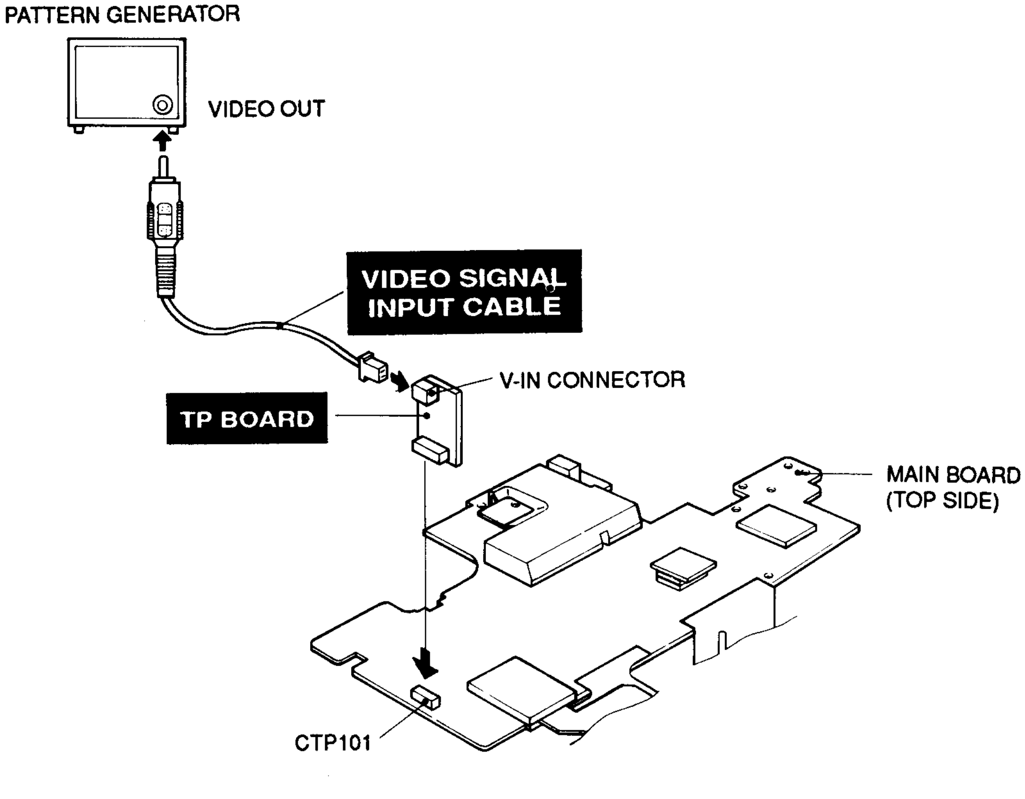
68140 - 500 - 007	68140 - 500 - 012	63053 - 916 - 554
Extension Cable 1 	**Extension Cable 2** 	**Extension Cable 3** 
68140 - 200 - 113	**68140 - 500 - 011**	**68140 - 200 - 122**
Adjusting Driver 	**TP Board** 	**Video Signal Input Cable** 

Extension Cable Connections

NOTE : When Servicing, disconnect original lead connector and then, use Cable 3 for troubleshooting.


CASE RIGHT ASS'Y
Cable 3
CAMERA ASS'Y
CN801
CN901
CNP01
PROCESS BOARD
Cable 1
BATTERY TERMINAL BOARD
CN051
MAIN BOARD
Cable 2
CN602
CN962
REMOTE MODULE BOARD
FUNCTION BOARD
CASE LEFT ASS'Y

TP Board & Video Signal Input Cable Connections


PATTERN GENERATOR
VIDEO OUT
VIDEO SIGNAL INPUT CABLE
V-IN CONNECTOR
TP BOARD
MAIN BOARD (TOP SIDE)
CTP101

1. PRECAUTIONS

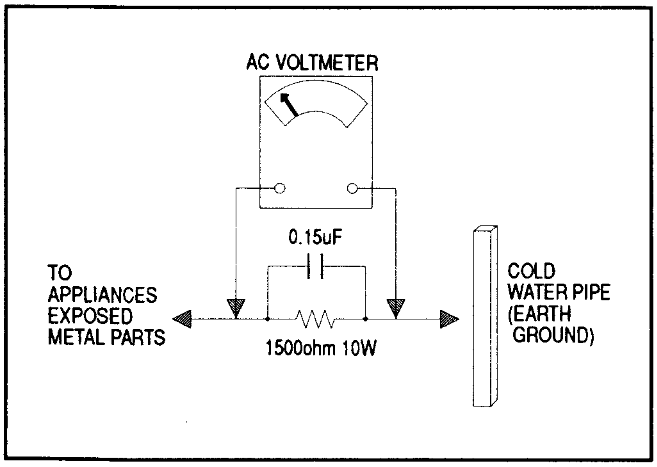
1-1. SAFETY PRECAUTIONS

GENERAL GUIDE LINE

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation paper shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.
4. Use a separated isolation transformer for this unit when servicing.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screw heads, connectors, control shafts, etc.
   When the exposed metallic part has a return path to the chassis, the reading should be between 1m and 5.2m.
   When the exposed metal does not have a return path to the chassis, the reading must be oo.



LEAKAGE CURRENT HOT CHECK (See Fig.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect an 1.5K, 10 watt resistor, in parallel with a 0.15uF capacitor, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in figure.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester may be used to make the hot checks, leakage current must not exceed 0.5 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

1-2. ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called "Electrostatically Sensitive (ES) Devices". Examples of typical ES devices are integrated circuits, some field effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

CAUTION : Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise, harmless motion such as the brushing together of your clothes fabric to the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

1-3. SAFETY INSTRUCTIONS

1. **Read Instructions** : All the safety and operating instructions should be read before the CAMCORDER is operated.

2. **Retain Instructions** : The safety and operating instructions should be retained for future reference.

3. **Heed Warnings** : All warnings on the CAMCORDER and the operating instructions should be adhered to.

4. **Follow Instructions** : All operating and maintenance instructions should be followed.

5. **Cleaning** : Unplug this CAMCORDER from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a dry cloth for dusting cabinet.

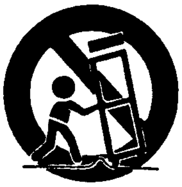
6. **Attachments** : Do not use attachments not recommended by the CAMCORDER product manufacturer, as they may be hazardous or cause damage.

7. **Water and Moisture** : Do not use this CAMCORDER near water, i.e, bath tub, wash bowl, kitchen sink, laundry tub, in a wet basement, near a swimming pool, or the lake.

8. **Accessories** : Do not place this CAMCORDER on an unstable cart, stand, tripod, bracket, or table.
   The CAMCORDER, if dropped could cause damage or injury. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the CAMCORDER. Any mounting of the unit should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer.

a. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surface may cause the appliance and cart combination to overturn.

PORTABLE CART WARNING
(Symbol provided by RETAC)



9. **Ventilation** : Slot and opening in the cabinet are provided for ventilation to ensure reliable operation of the CAMCORDER and to protect it from overheating. These openings must not be blocked or covered. Never place your CAMCORDER on a bed, sofa, rug, or other similar surface on or near a radiator or heat register.
   This CAMCORDER should not be placed in a built-in installation such as a book case or rack unless proper ventilation is provided or manufacturer's instructions have been adhered to.

10. **Power Sources** : This CAMCORDER should be operated only from the type of power source indicated on the label. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. To operate the CAMCORDER by battery or other power source, consult the operating instructions.

11. **Grounding and Polarization** : This CAMCORDER may be equipped with either a polarized 2-wire AC line plug (a plug having one blade wider than the other) or a 3-wire grounding type plug, a plug having a third (grounding) pin. The 2-wire polarized plug will fit into the power outlet only one way. This is a safety feature.
    If you are unable to insert the plug fully into the outlet,try reversing the plug. If the plug still fails to fit, contact your electrician to replace your outlet. Do not defeat the safety purpose of the polarized plug.

12. **Power-Cord Protection** : Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, especially cords of plugs and convenience receptacles, at the point where they exit from the unit.

13. **Lightning** : For added protection of this CAMCORDER during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage of the CAMCORDER from lightning and power-line surges.

14. **Power Lines** : An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits where it can fall into such power lines or circuit. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

15. **Overloading** : Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

16. **Objects and Liquids** : Never push objects of any kind into the CAMCORDER as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquids of any kind onto the CAMCORDER. Should spill occur, unplug unit and have it checked by a technician before use.

17. **Servicing** : Do not attempt to service this CAMCORDER yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service person.

18. **Damage Requiring Service** : Unplug this CAMCORDER from the wall outlet and refer servicing to qualified service personnel under the following conditions :

    a. When the power-supply cord or plug is damaged.
    b. If any liquid has been spilled into, or objects have fallen in the CAMCORDER
    c. If the CAMCORDER has been exposed to rain or water.
    d. If the CAMCORDER does not operate normally by following the operating instruction, adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the CAMCORDER to its normal operation.

WARNING ;
Lithium battery - Danger of explosion if incorrectly replaced. Must only be replaced by a battery of same make and type. Used batteries shall be returned to the supplier.

   e. If the CAMCORDER has been dropped or the cabinet has been damaged.
   f. When the CAMCORDER exhibits a distinct change in performance, this indicates a need for service.

19. **Replacement Parts** : When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

20. **Safety Check** : Upon completion of any service or repairs to this CAMCORDER, the safety check procedure should be performed.

IMPORTANT SAFETY NOTICE
There are special components in this equipment which are important for safety. These parts are marked by ⚠in the schematic diagram, exploded views and replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts owing to shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

2. SPECIFICATIONS

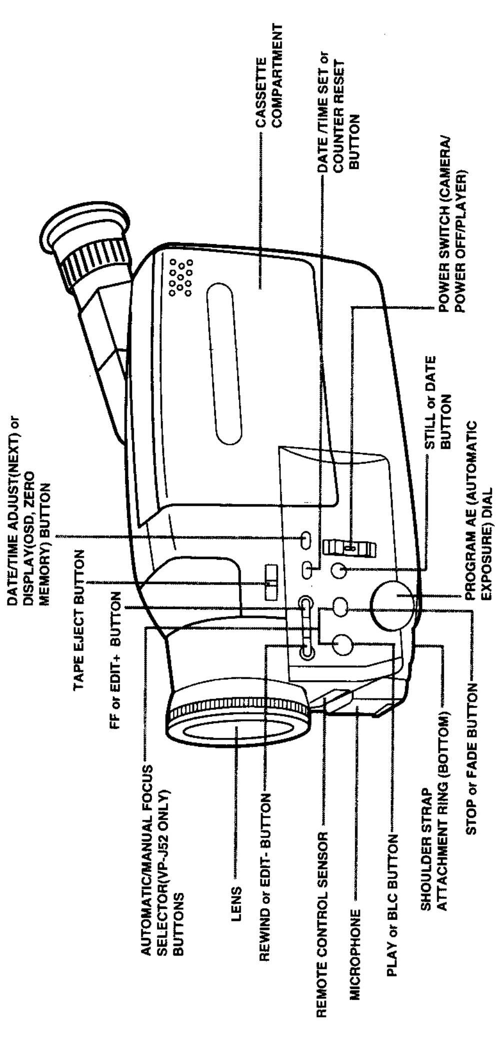
Specifications are correct at the time of printing. Product specifications are subject to change without notice.
See below for product specifications.

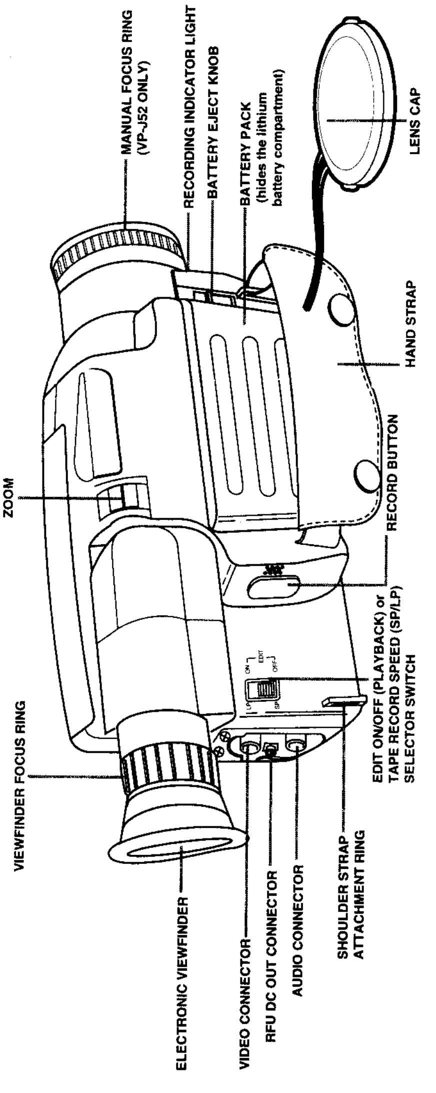
Specifications

Operation	Description	Operation	Description
Video Recording System	2 Rotary heads, Helical FM scanning system	Power Requirement	AC power adaptor (7.5V) Battery pack (6.0V)
Audio Recording System	1 Rotary head, FM system	Power Consumption	6.5Watt (In camera recording mode)
Video Signal	PAL colour, CCIR standard	Operating Temperature	0° C to 40° C (32° F to 104° F)
Cassette Format	8mm	Storage Temperature	-20° C to 60° C (-4° F to 140° F)
Tape Speed	SP : Approx. 20.051 mm/sec. LP : Approx. 10.058 mm/sec.	Tripod Attachment Thread	Attachment screw less than 6mm long
Recording/Playback Time	SP mode: 1 hours 30 minutes (P5-90) LP mode: 3 hours (P5-90)	Dimensions (W/H/D)	Approx. 87 X 110X 243 (W X H X D) (3.4 X 4.3 X 9.9 inch)
Fast forward/Rewind Time	Approx. 4.5 min. (P5-60)	Weight	Approx. 690g(<21b) (Including lens cap, excluding battery pack and cassette)
Image Device	CCD (Charge Coupled Device)	Microphone	Electric condensor microphone omni-directional, monaural type
Viewfinder	Electronic viewfinder (black and white)	Video Output	Phono jack, 1Vp-p, 75 ohms unbalanced, sync negative
Lens	Combined 12X power zoom lens f = 5.4 ~ 64.8 mm, F1.8 with manua focus ring	Audio Output	Phono jack, -7.0 dBs, for an output impedance of less than 2.2 kilo-ohms
Automatic Focus System	TTL	RFU DC OUT	Special mini-jack, 5V DC
Color Temperature	AUTO INDOORS : 3,100° K OUTDOORS : 5,100° K		
Lighting	> 300LUX (28 footcandles) ; minimum lighting : 2 lux		
Aperture Correction	Automatic with Back light adjustment		

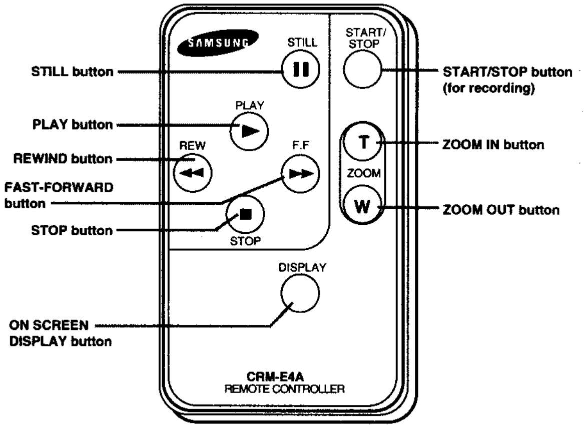
Weight and dimensions shown are approximate.

3. OPERATING INSTRUCTION


DATE/TIME ADJUST(NEXT) or DISPLAY(OSD, ZERO MEMORY) BUTTON
TAPE EJECT BUTTON
FF or EDIT+ BUTTON
AUTOMATIC/MANUAL FOCUS SELECTOR(VP-J52 ONLY) BUTTONS
LENS
REWIND or EDIT- BUTTON
REMOTE CONTROL SENSOR
MICROPHONE
PLAY or BLC BUTTON
SHOULDER STRAP ATTACHMENT RING (BOTTOM)
STOP or FADE BUTTON
PROGRAM AE (AUTOMATIC EXPOSURE) DIAL
STILL or DATE BUTTON
POWER SWITCH (CAMERA/ POWER OFF/PLAYER)
DATE /TIME SET or COUNTER RESET BUTTON
CASSETTE COMPARTMENT

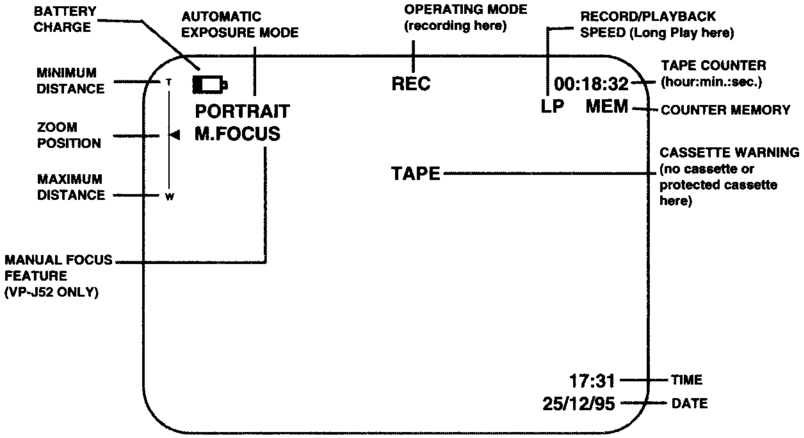

ZOOM
VIEWFINDER FOCUS RING
ELECTRONIC VIEWFINDER
VIDEO CONNECTOR
RFU DC OUT CONNECTOR
AUDIO CONNECTOR
SHOULDER STRAP ATTACHMENT RING
EDIT ON/OFF (PLAYBACK) or TAPE RECORD SPEED (SP/LP) SELECTOR SWITCH
ON
EDIT
OFF
LP
SP
RECORD BUTTON
HAND STRAP
LENS CAP
BATTERY PACK (hides the lithium battery compartment)
BATTERY EJECT KNOB
RECORDING INDICATOR LIGHT
MANUAL FOCUS RING (VP-J52 ONLY)

Display, Remote Control and Accessories



STILL button
PLAY button
REWIND button
FAST-FORWARD button
STOP button
ON SCREEN DISPLAY button
SAMSUNG
STILL
PLAY
REW
F.F
STOP
DISPLAY
START/STOP
ZOOM
T
W
CRM-E4A
REMOTE CONTROLLER
START/STOP button (for recording)
ZOOM IN button
ZOOM OUT button

REMOTE CONTROL



BATTERY CHARGE
AUTOMATIC EXPOSURE MODE
OPERATING MODE (recording here)
RECORD/PLAYBACK SPEED (Long Play here)
MINIMUM DISTANCE
ZOOM POSITION
MAXIMUM DISTANCE
MANUAL FOCUS FEATURE (VP-J52 ONLY)
T
W
PORTRAIT
M.FOCUS
REC
TAPE
00:18:32
LP MEM
17:31
25/12/95
TAPE COUNTER (hour:min.:sec.)
COUNTER MEMORY
CASSETTE WARNING (no cassette or protected cassette here)
TIME
DATE

MAIN VIEWFINDER INDICATORS

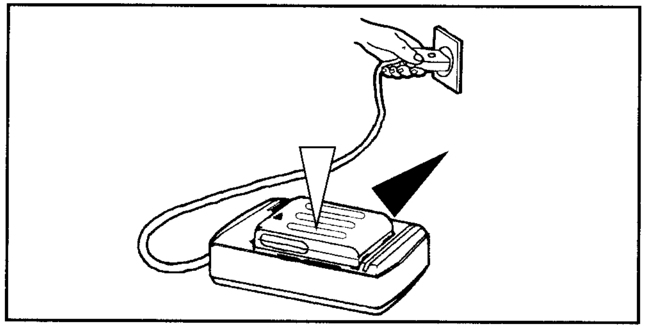
Charging the Battery Pack

The battery pack supplied lasts approximately 40 minutes, depending on how much you use the Zoom and Pause functions. It is, therefore, recommended that you have several available.

You must charge the battery pack when:

- ***You purchase the camcorder***
- ***The battery pack is completely discharged (the ▭ symbol flashes in the viewfinder)***

IMPORTANT ***Please read the instructions on how to use and take care of the battery pack on page 52.***

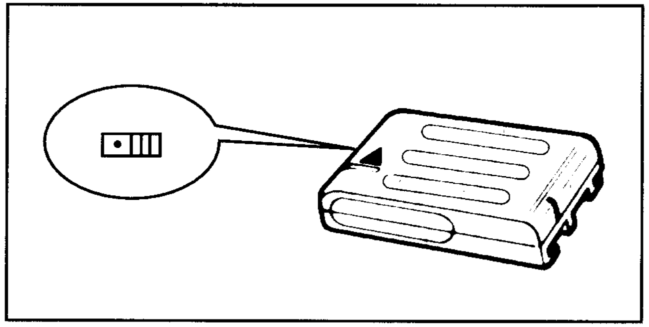


Connect the AC power adapter to a wall socket.

Attach the battery pack to the adapter by:

- Pressing down on the battery pack
- Sliding it to the right

Result: The power and charge indicator lights come on.



Leave the battery to charge for about one hour.

Result: After one hour, the charge indicator light goes out.

Set the identification tab to the red position to show that the battery is ready for use.

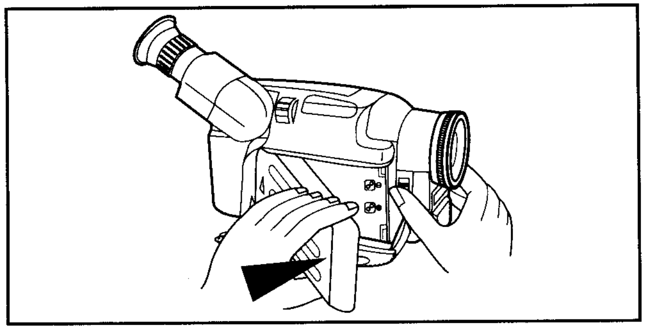
Attaching the Battery Pack

Once the battery pack has been completely charged, you can attach it to the camcorder.

When you have finished using your camcorder, remove the battery pack so that it will not be damaged in any way.

IMPORTANT *Before attaching or removing the battery pack, check that the POWER switch is set to POWER OFF.*

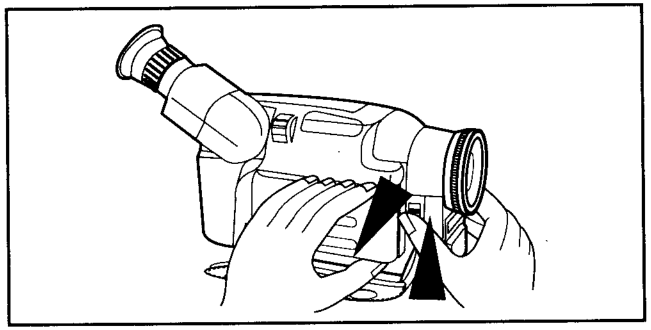
Attachment



Press the battery pack as illustrated.

Make sure that the battery pack is fitted firmly into place. Otherwise, you may damage the pins on the camcorder.

Removal



Slide the BATT EJECT knob.

Remove the battery pack as illustrated.

Set the identification tab to the black position to show that the battery is discharged.

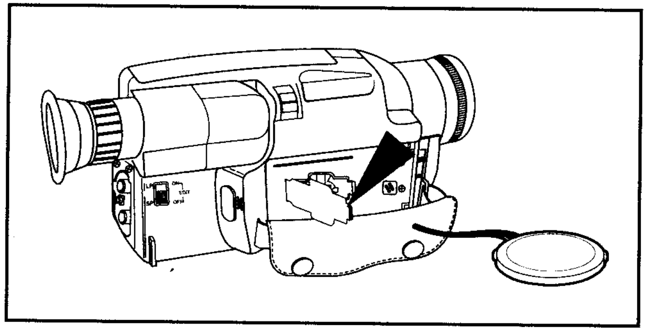
Inserting the Lithium Batteries

The two lithium batteries supplied (like watch batteries, reference CR2025) last about one year. One must be inserted in the camcorder, to store the date and time that can be recorded on a cassette, the other in the remote control.

You must replace the appropriate battery if:

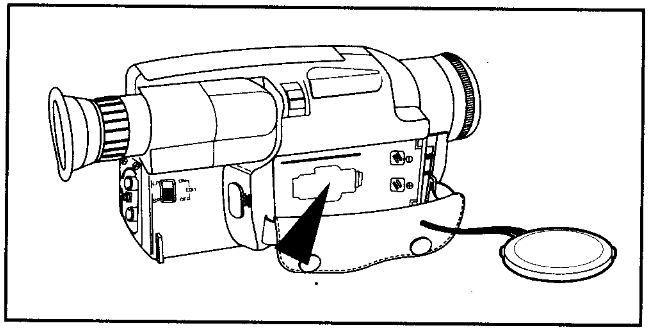
- *The date and time flashes in the viewfinder for about five seconds when you set the POWER switch to CAM, after date and time have been set (camcorder battery)*
- *The remote control does not work correctly (remote control battery)*

NOTE *After replacing the camcorder lithium battery, re-set the date and time (see page 12)*



Open the battery holder on the right side of the camcorder (under the battery pack) by pushing the tab in the direction shown.

Note: Lithium battery-Danger of explosion if incorrectly replaced. Must only be replaced by a battery of same make and type. Used batteries shall be returned to the supplier.



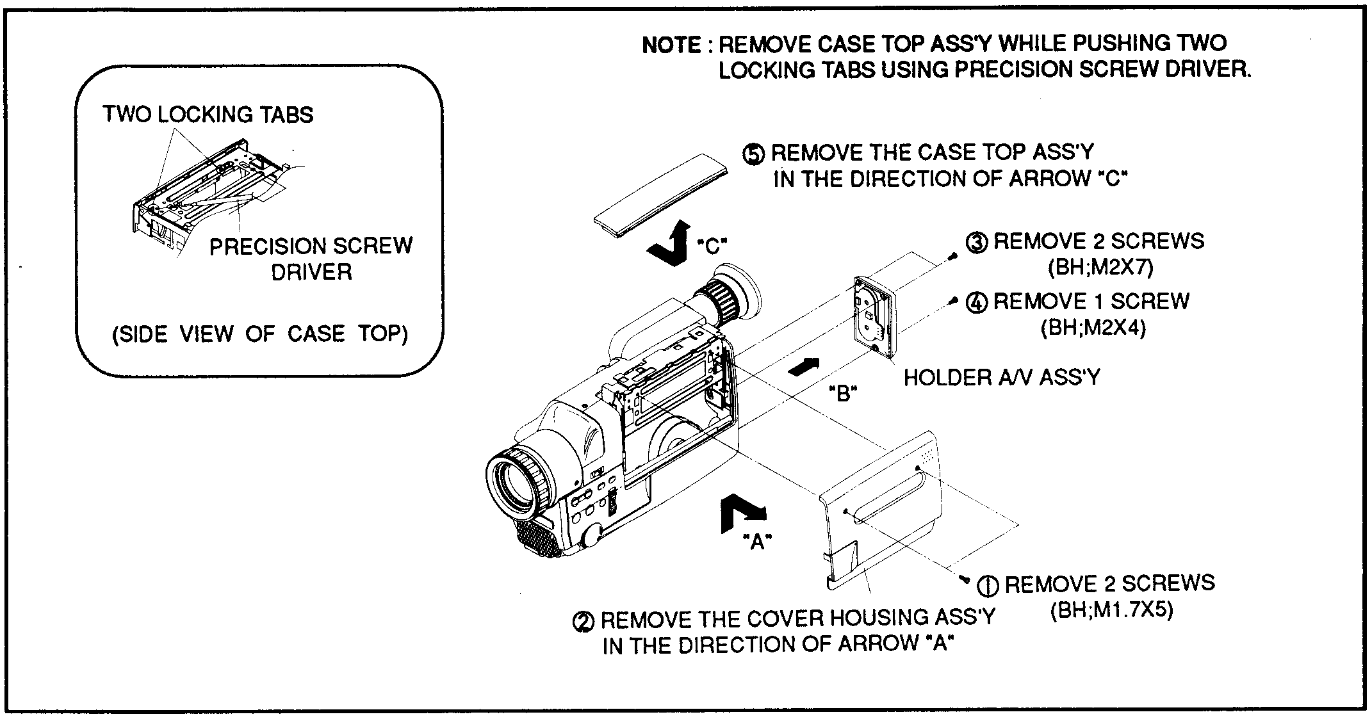
Insert the battery, taking care to respect the polarities: the "+" on the battery must be facing upwards.

Close the battery holder.

4. DISASSEMBLY

4-1. INSTRUMENT DISASSEMBLY

4-1-1. Cover Housing Ass'y, Holder-A/V Ass'y & Case-Top Ass'y Removal


NOTE : REMOVE CASE TOP ASS'Y WHILE PUSHING TWO LOCKING TABS USING PRECISION SCREW DRIVER.

⑤ REMOVE THE CASE TOP ASS'Y IN THE DIRECTION OF ARROW "C"

③ REMOVE 2 SCREWS (BH;M2X7)

④ REMOVE 1 SCREW (BH;M2X4)

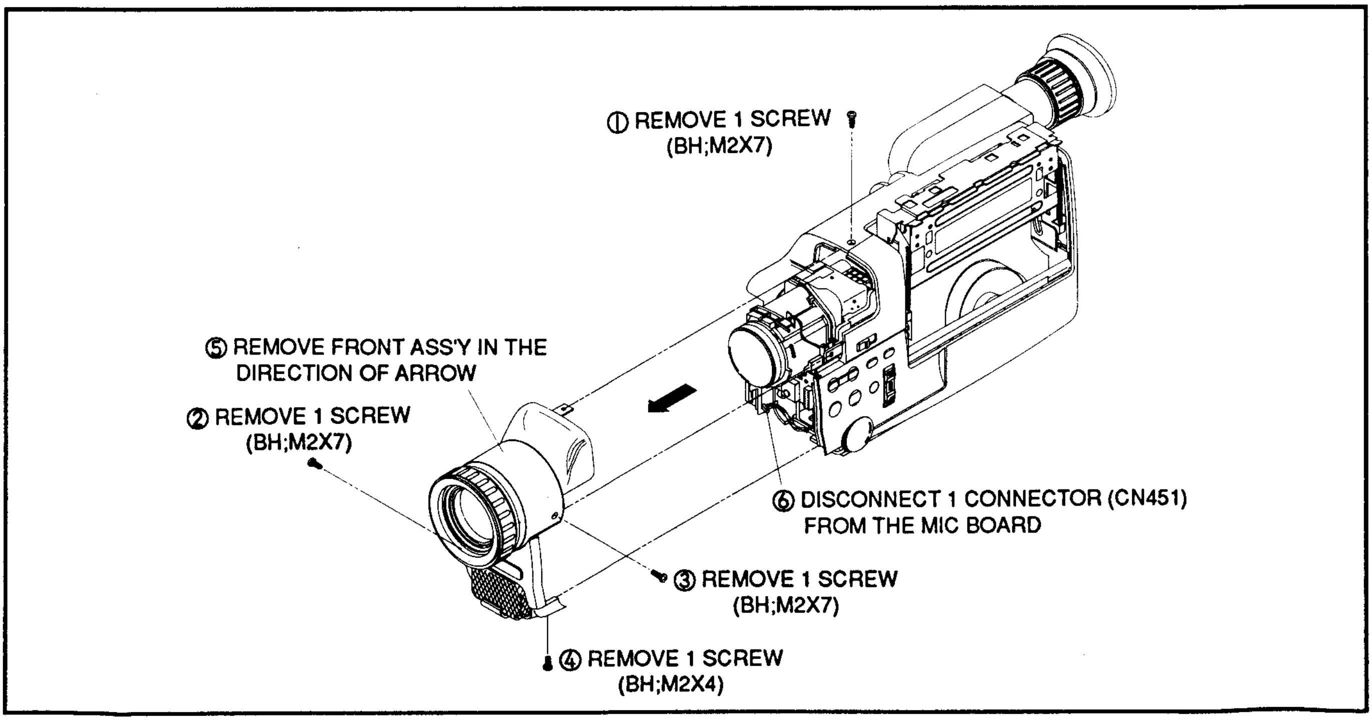
① REMOVE 2 SCREWS (BH;M1.7X5)

② REMOVE THE COVER HOUSING ASS'Y IN THE DIRECTION OF ARROW "A"

TWO LOCKING TABS
PRECISION SCREW DRIVER
(SIDE VIEW OF CASE TOP)
"C"
"B"
"A"
HOLDER A/V ASS'Y

Fig. 1 Cover Housing Ass'y, Holder-A/V Ass'y & Case-Top Ass'y Removal

4-1-2. Case-Front Ass'y Removal


① REMOVE 1 SCREW (BH;M2X7)

⑤ REMOVE FRONT ASS'Y IN THE DIRECTION OF ARROW

② REMOVE 1 SCREW (BH;M2X7)

⑥ DISCONNECT 1 CONNECTOR (CN451) FROM THE MIC BOARD

③ REMOVE 1 SCREW (BH;M2X7)

④ REMOVE 1 SCREW (BH;M2X4)

Fig. 2 Case-Front Ass'y Removal

4-1-3. Case-Left Ass'y Removal

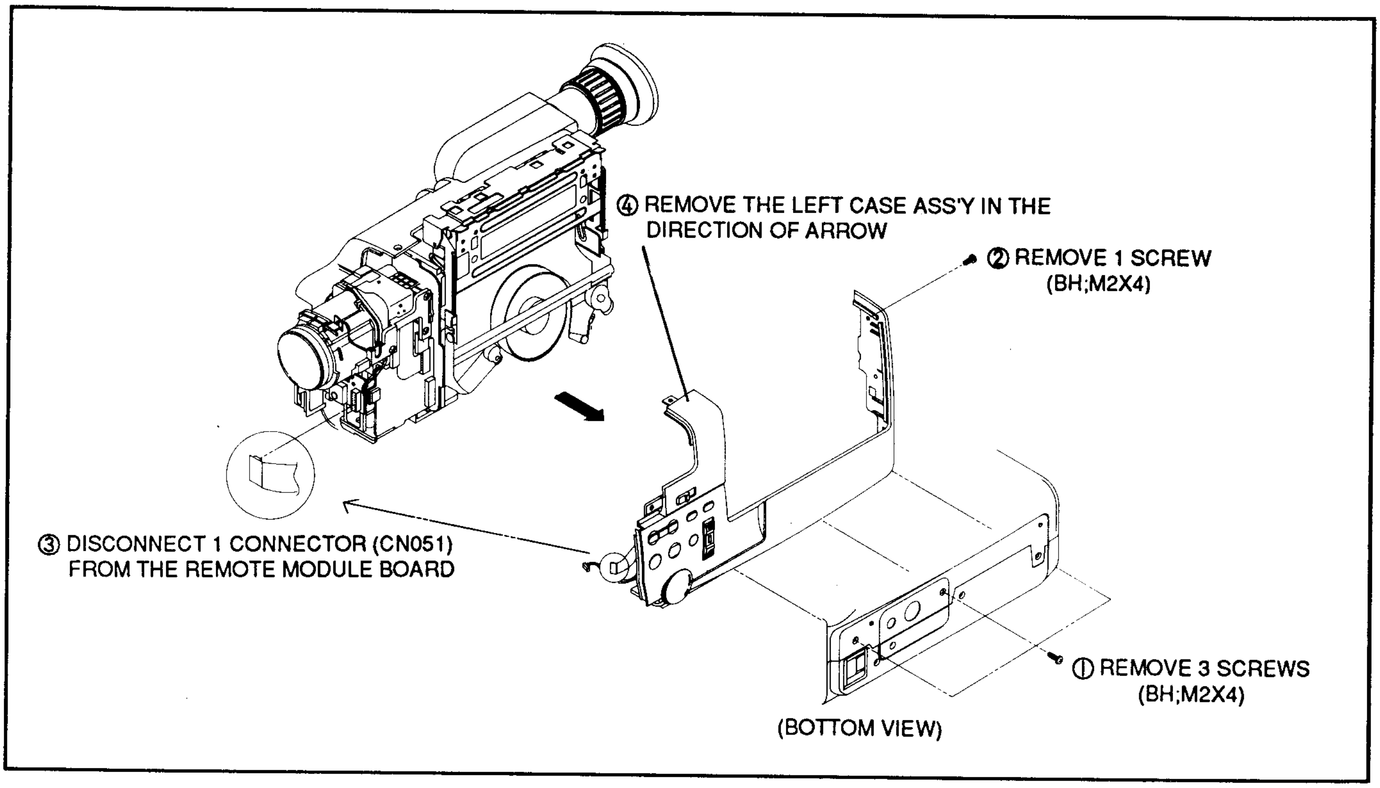

④ REMOVE THE LEFT CASE ASS'Y IN THE DIRECTION OF ARROW
② REMOVE 1 SCREW (BH;M2X4)
③ DISCONNECT 1 CONNECTOR (CN051) FROM THE REMOTE MODULE BOARD
① REMOVE 3 SCREWS (BH;M2X4)
(BOTTOM VIEW)

Fig. 3 Case-Left Ass'y Removal

4-1-4. Case-Right Ass'y Removal

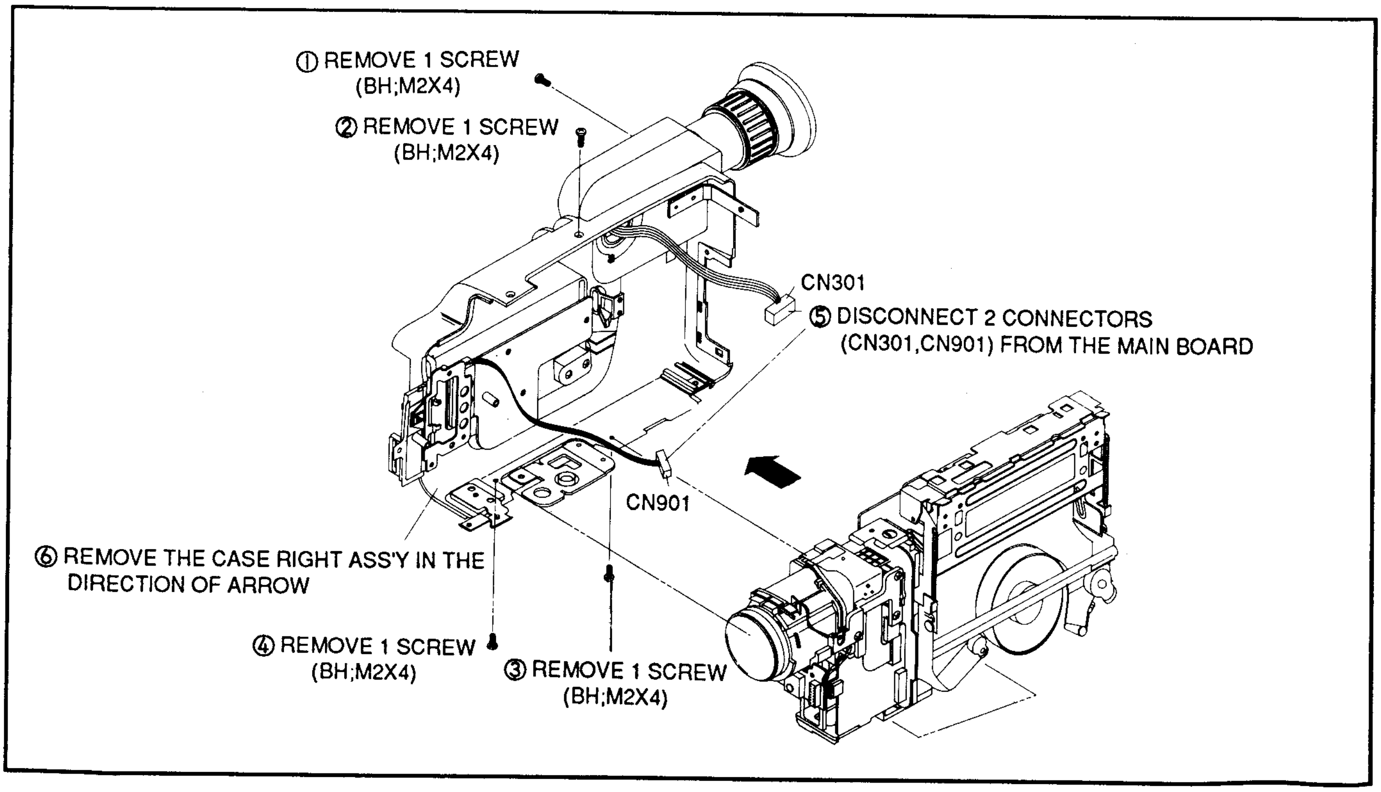

① REMOVE 1 SCREW (BH;M2X4)
② REMOVE 1 SCREW (BH;M2X4)
CN301
⑤ DISCONNECT 2 CONNECTORS (CN301,CN901) FROM THE MAIN BOARD
CN901
⑥ REMOVE THE CASE RIGHT ASS'Y IN THE DIRECTION OF ARROW
④ REMOVE 1 SCREW (BH;M2X4)
③ REMOVE 1 SCREW (BH;M2X4)

Fig. 4 Case-Right Ass'y Removal

4-1-5. VCR & CAMERA Block Removal

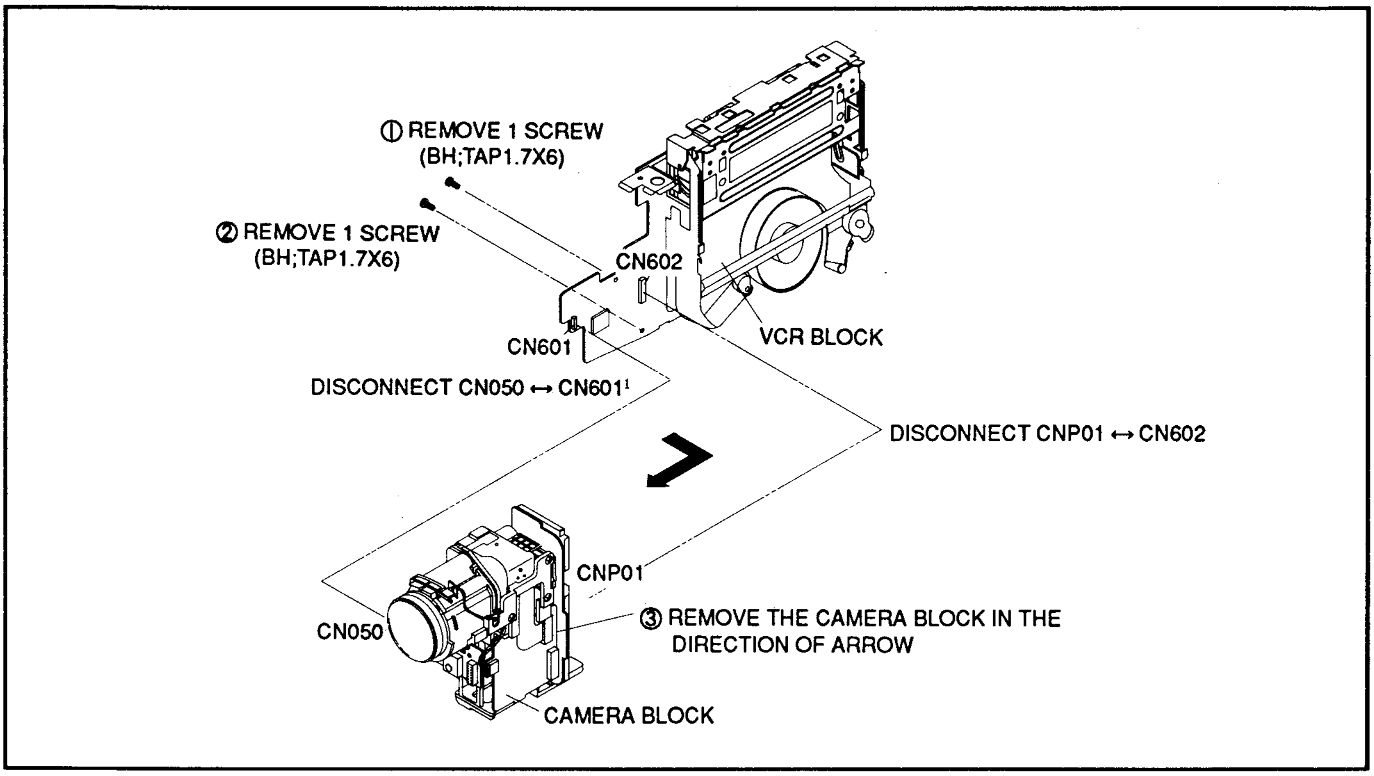

① REMOVE 1 SCREW
(BH;TAP1.7X6)
② REMOVE 1 SCREW
(BH;TAP1.7X6)
CN602
CN601
VCR BLOCK
DISCONNECT CN050 ↔ CN601
DISCONNECT CNP01 ↔ CN602
CNP01
CN050
③ REMOVE THE CAMERA BLOCK IN THE DIRECTION OF ARROW
CAMERA BLOCK

Fig. 5 VCR & CAMERA Block Removal

4-1-6. VCR Block Removal

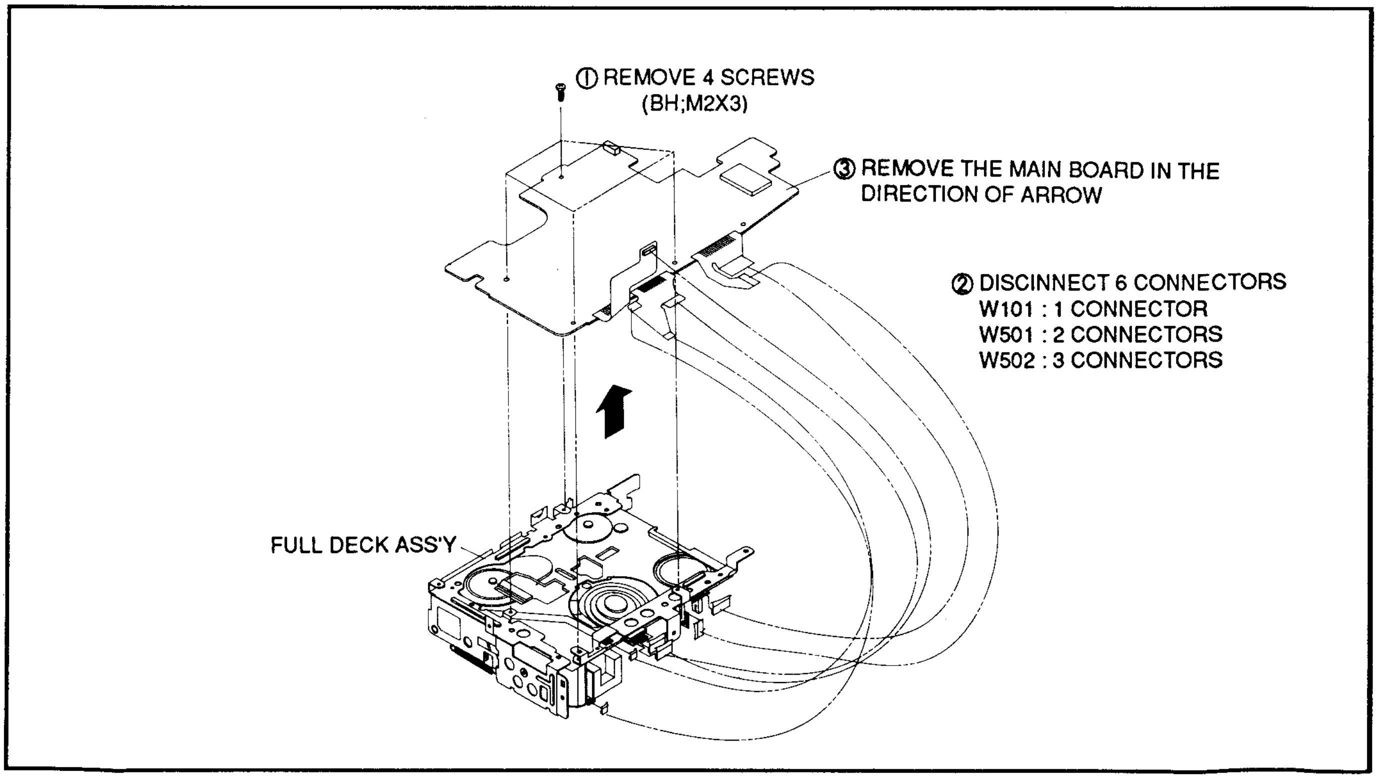

① REMOVE 4 SCREWS
(BH;M2X3)
③ REMOVE THE MAIN BOARD IN THE DIRECTION OF ARROW
② DISCINNECT 6 CONNECTORS
W101 : 1 CONNECTOR
W501 : 2 CONNECTORS
W502 : 3 CONNECTORS
FULL DECK ASS'Y

Fig. 6 VCR Block Removal

4-1-7. CAMERA Block Removal

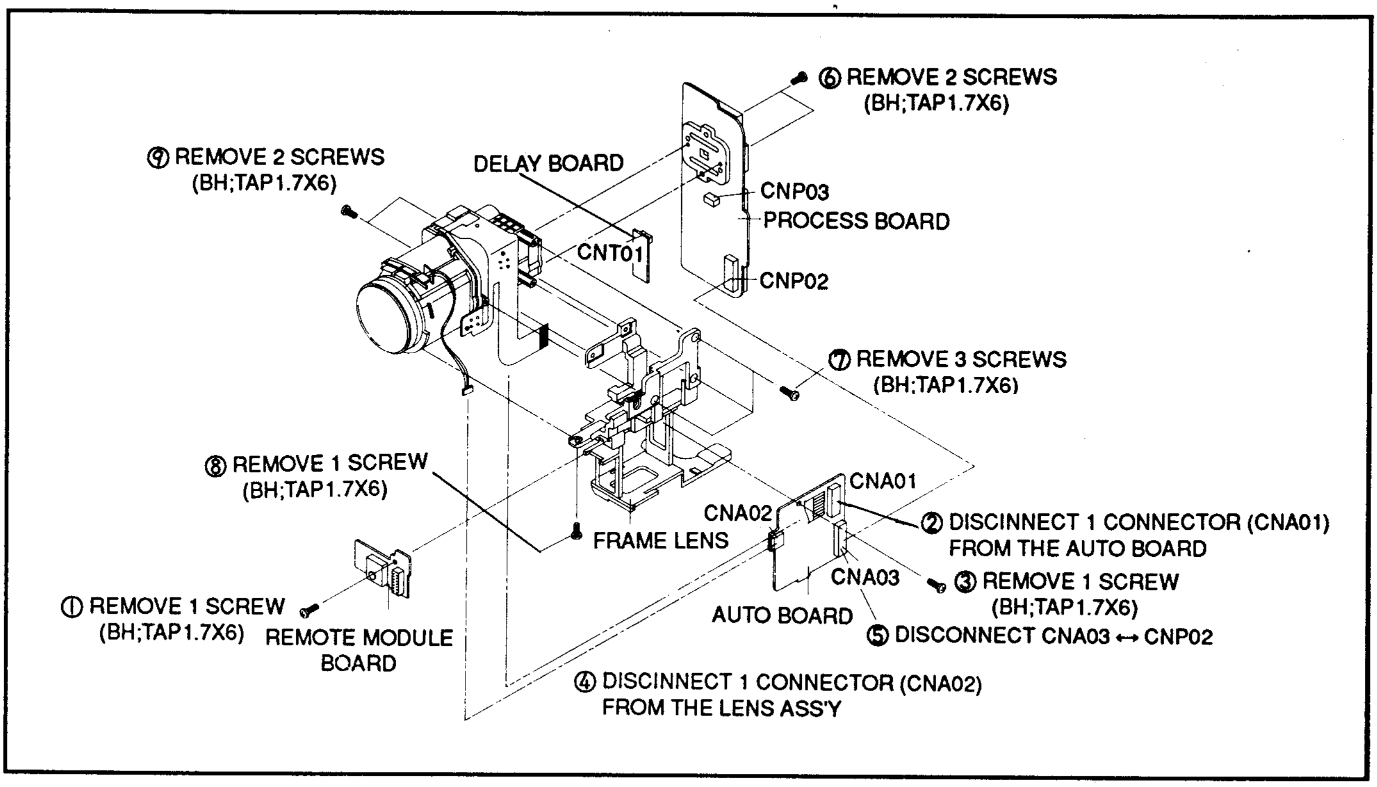

⑥ REMOVE 2 SCREWS
(BH;TAP1.7X6)
⑨ REMOVE 2 SCREWS
(BH;TAP1.7X6)
DELAY BOARD
CNP03
PROCESS BOARD
CNT01
CNP02
⑦ REMOVE 3 SCREWS
(BH:TAP1.7X6)
⑧ REMOVE 1 SCREW
(BH;TAP1.7X6)
CNA01
CNA02
② DISCINNECT 1 CONNECTOR (CNA01)
FROM THE AUTO BOARD
FRAME LENS
CNA03
③ REMOVE 1 SCREW
(BH;TAP1.7X6)
① REMOVE 1 SCREW
(BH;TAP1.7X6)
REMOTE MODULE
BOARD
AUTO BOARD
⑤ DISCONNECT CNA03 ↔ CNP02
④ DISCINNECT 1 CONNECTOR (CNA02)
FROM THE LENS ASS'Y

Fig. 7 CAMERA Block Removal

4-1-8. EVF Ass'y Removal

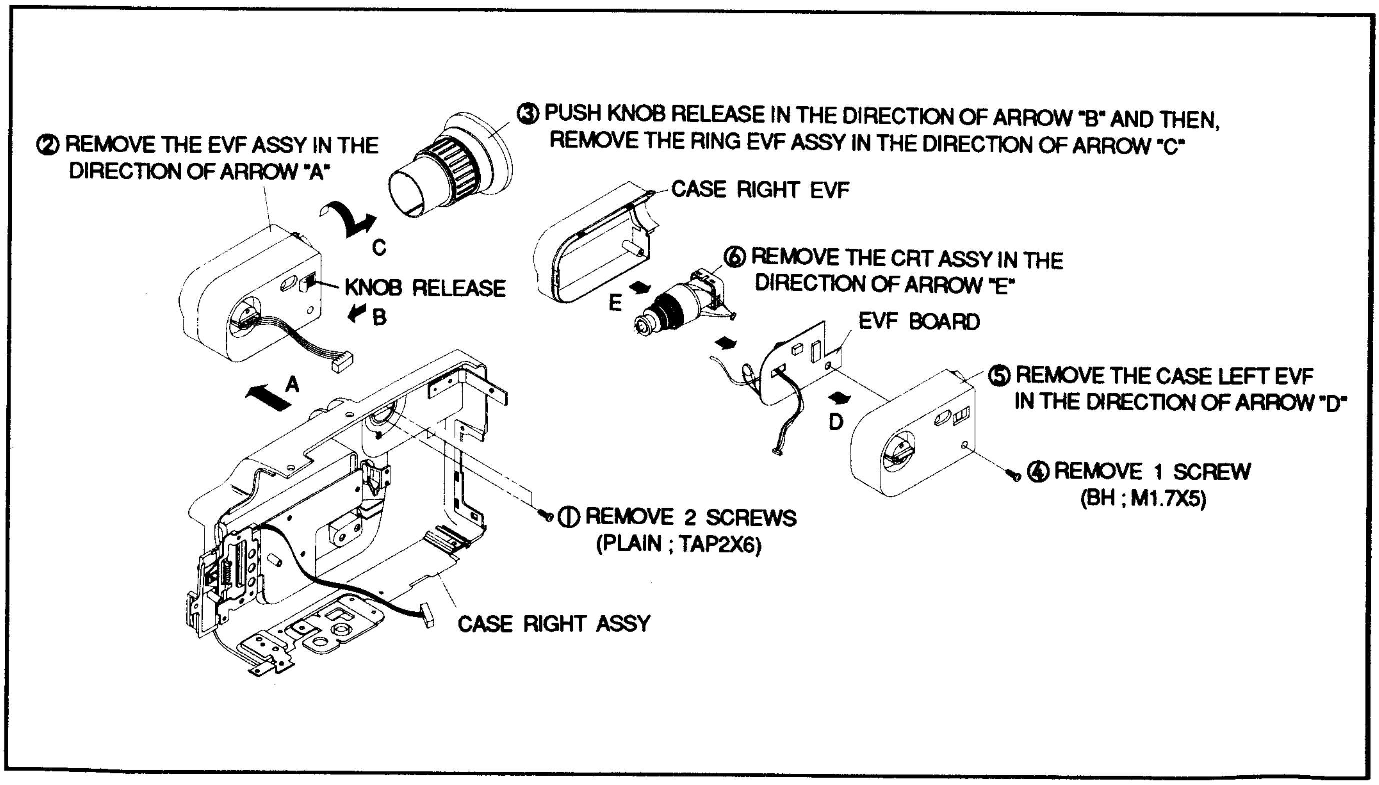
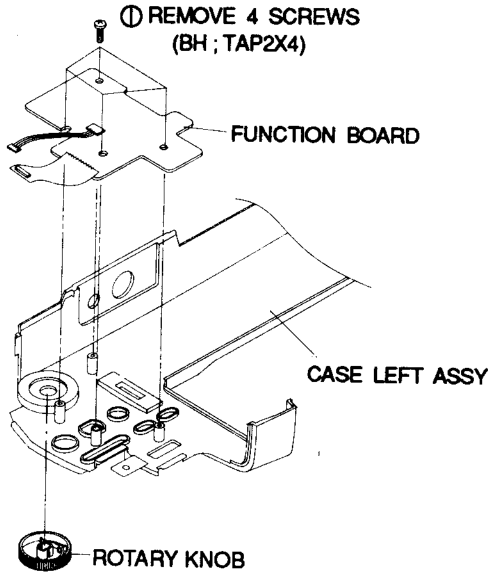
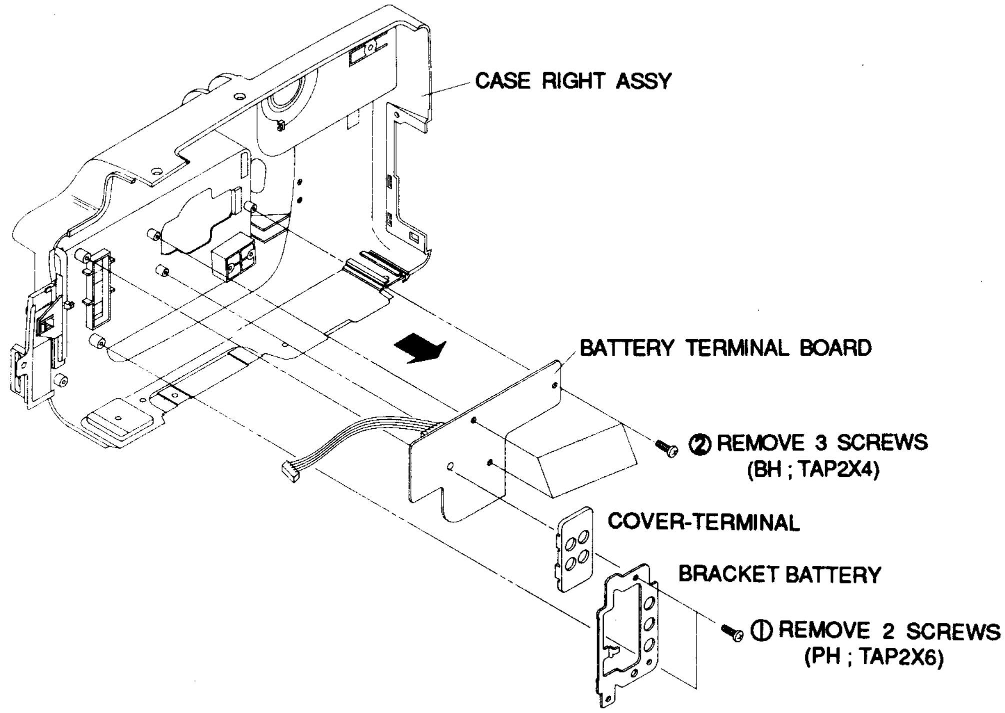

③ PUSH KNOB RELEASE IN THE DIRECTION OF ARROW "B" AND THEN,
REMOVE THE RING EVF ASSY IN THE DIRECTION OF ARROW "C"
② REMOVE THE EVF ASSY IN THE
DIRECTION OF ARROW "A"
CASE RIGHT EVF
C
⑥ REMOVE THE CRT ASSY IN THE
DIRECTION OF ARROW "E"
KNOB RELEASE
B
E
EVF BOARD
A
⑤ REMOVE THE CASE LEFT EVF
IN THE DIRECTION OF ARROW "D"
D
④ REMOVE 1 SCREW
(BH ; M1.7X5)
① REMOVE 2 SCREWS
(PLAIN ; TAP2X6)
CASE RIGHT ASSY

Fig. 8 EVF Ass'y Removal

4-1-9. Function Board & Battery Terminal Board Removal


① REMOVE 4 SCREWS
(BH ; TAP2X4)
FUNCTION BOARD
CASE LEFT ASSY
ROTARY KNOB

FUNCTION BOARD REMOVAL


CASE RIGHT ASSY
BATTERY TERMINAL BOARD
② REMOVE 3 SCREWS
(BH ; TAP2X4)
COVER-TERMINAL
BRACKET BATTERY
① REMOVE 2 SCREWS
(PH ; TAP2X6)

BATTERY TERMINAL BOARD REMOVAL

Fig. 9 Function Board & Battery Terminal Board Removal

4-1-10. Circuit Boards Location

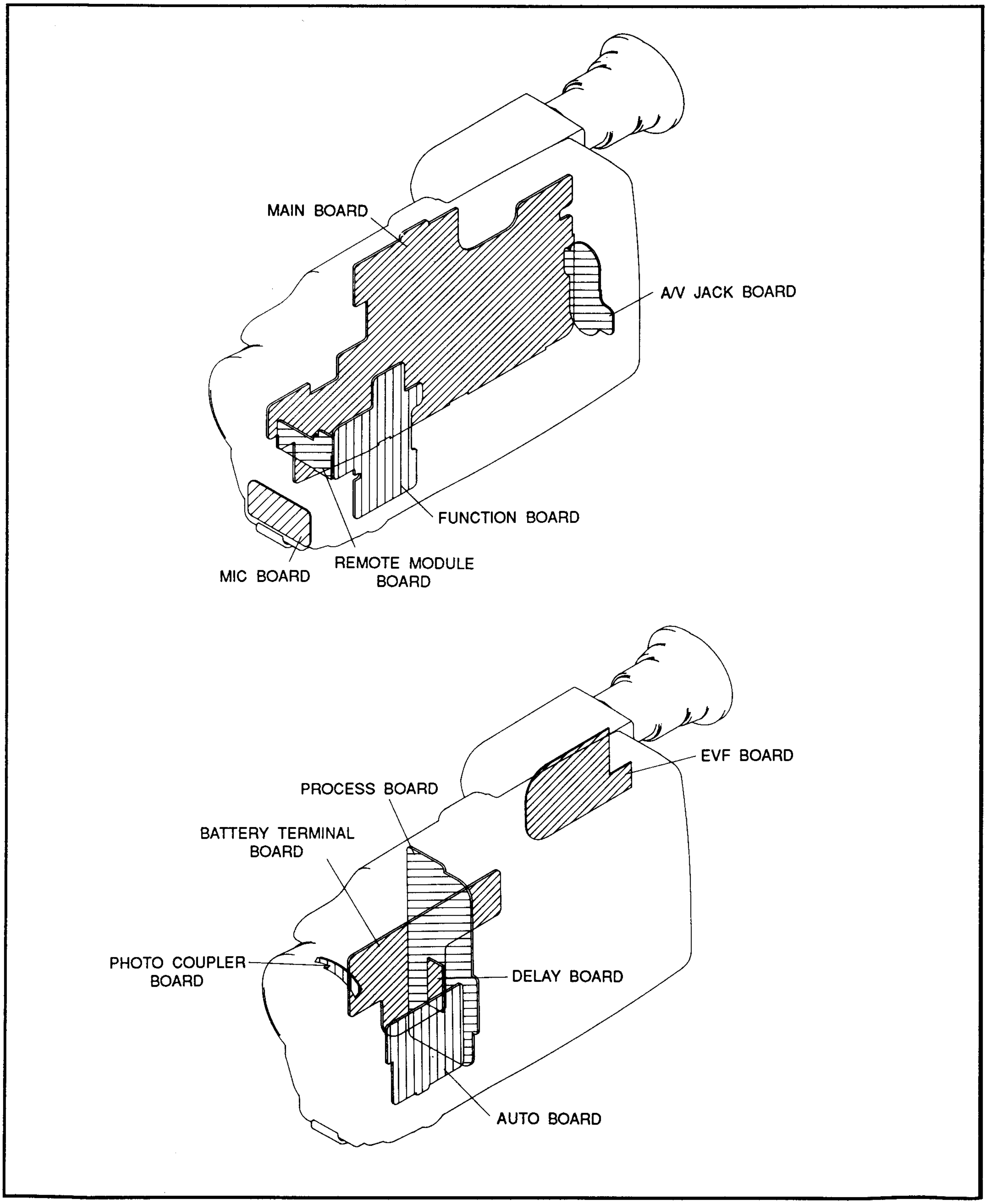
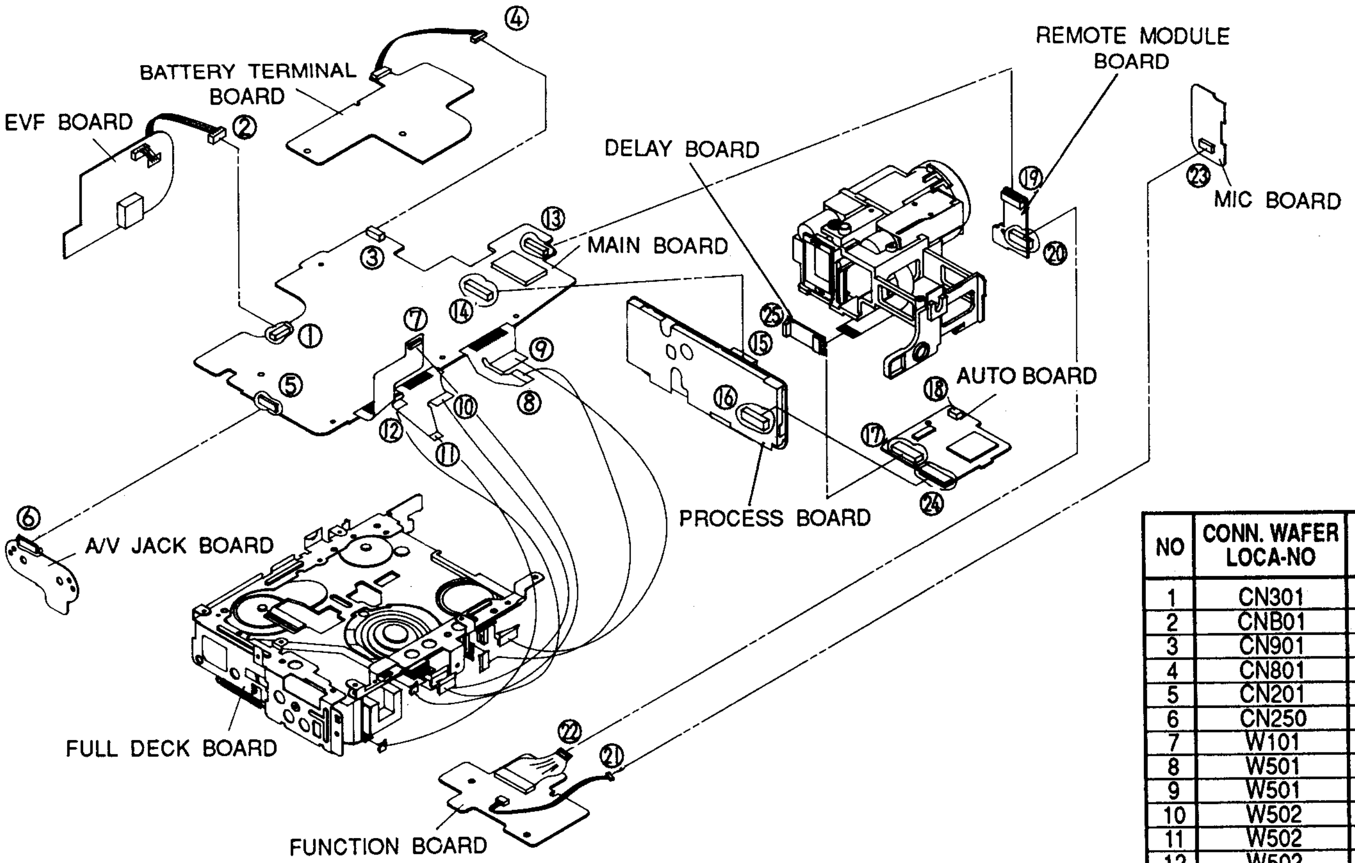

MAIN BOARD
A/V JACK BOARD
FUNCTION BOARD
MIC BOARD
REMOTE MODULE BOARD
EVF BOARD
PROCESS BOARD
BATTERY TERMINAL BOARD
PHOTO COUPLER BOARD
DELAY BOARD
AUTO BOARD

Fig. 10 Circuit Boards Location

4-1-11. Diagram of Connectors Connection


EVF BOARD
BATTERY TERMINAL BOARD
④
②
①
③
⑤
⑥
A/V JACK BOARD
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
MAIN BOARD
DELAY BOARD
⑮
⑯
PROCESS BOARD
⑰
⑱
AUTO BOARD
㉔
㉕
REMOTE MODULE BOARD
⑲
⑳
㉓
MIC BOARD
FULL DECK BOARD
㉑
㉒
FUNCTION BOARD

NO	CONN. WAFER LOCA-NO	DIRECTION	CONN. WAFER LOCA-NO
1	CN301	FROM EVF ASS'Y	CNB01
2	CNB01	TO MAIN BOARD	CN301
3	CN901	FROM BATTERY TERMINAL BOARD	CN801
4	CN801	TO MAIN BOARD	CN901
5	CN201	FROM A/V JACK BOARD	CN250
6	CN250	TO MAIN BOARD	CN201
7	W101	TO FULL DECK ASS'Y	D/MOTOR
8	W501	TO FULL DECK ASS'Y	F.P.C
9	W501	TO FULL DECK ASS'Y	C/MOTOR
10	W502	TO FULL DECK ASS'Y	D/MOTOR
11	W502	TO FULL DECK ASS'Y	L/MOTOR
12	W502	TO FULL DECK ASS'Y	PROG. S/W
13	CN601	FROM REMOTE MODULE BOARD	CN050
14	CN602	FROM PROCESS BOARD	CNP01
15	CNP01	TO MAIN BOARD	CN602
16	CNP02	FROM AUTO BOARD	CNA03
17	CNA01	FROM ZOOM LENS ASS'Y	F.P.C
18	CNA02	TO PHOTO SENSOR ASS'Y	-
19	CN050	TO MAIN BOARD	CN601
20	CN051	FROM FUNCTION BOARD	W960
21	CN961	FROM MIC BOARD	CN451
22	W960	TO REMOTE MODULE BOARD	CN051
23	CN451	TO FUNCTION BOARD	CN961
24	CNA03	TO PROCESS BOARD	CNP02
25	CNT01	TO PROCESS BOARD	CNP03

4-2. MECHANICAL DISASSEMBLY

4-2-1. Mechanical Parts Locations

1. Main Deck (Top View)

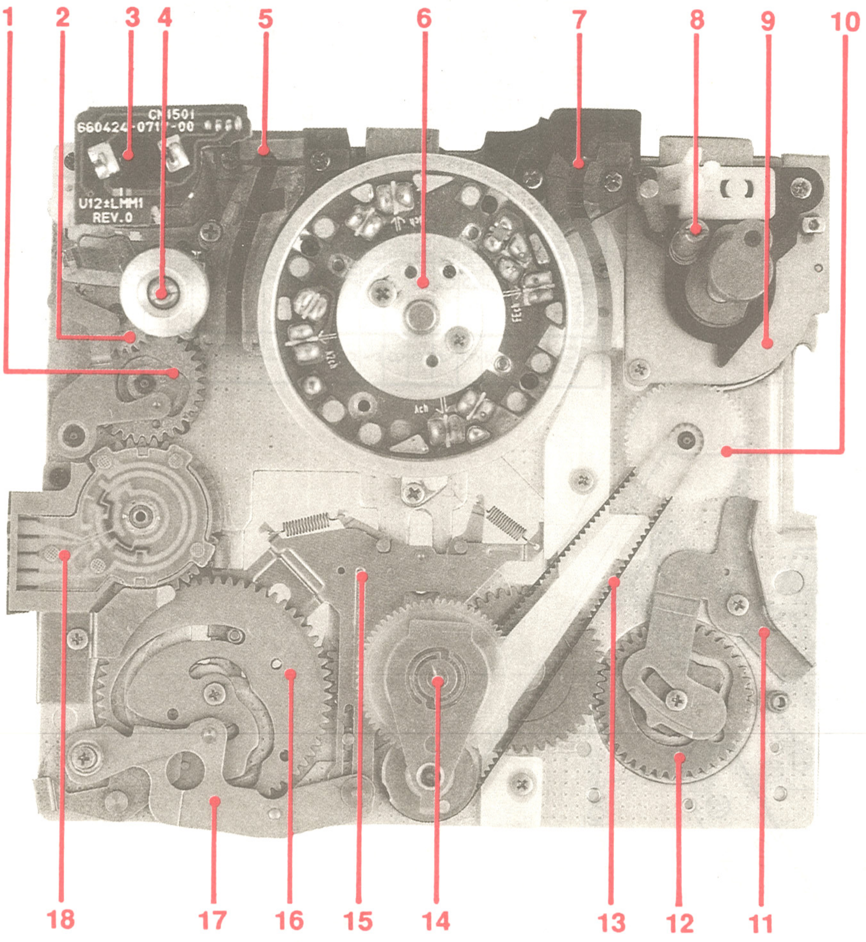

1
2
3
4
5
6
7
8
9
10
CN501
660424-071?-00
U12±LMM1
REV.0
18
17
16
15
14
13
12
11

Fig. 11 Main Deck (Top View)

1. GEAR-CAM TENSION
2. GEAR-LOADING B
3. MOTOR-LOADING
4. POLE-BASE SUB ASS'Y
5. RAIL-STOPPER L
6. ASS'Y-SEMI DRUM
7. GUIDE-TAPE T
8. BASE-CAPSTAN ASS'Y
9. MOTOR CAPSTAN
10. GEAR-CAPSTAN ASS'Y
11. LEVER-CAM PINCH ASS'Y
12. GEAR-CAM PINCH
13. BELT-TIMING
14. IDLER ASS'Y
15. PLATE-SLIDER ASS'Y
16. GEAR-CAM MAIN
17. LEVER-CAM ASS'Y
18. SWITCH-MODE ASS'Y

2. Sub Deck (Top View)

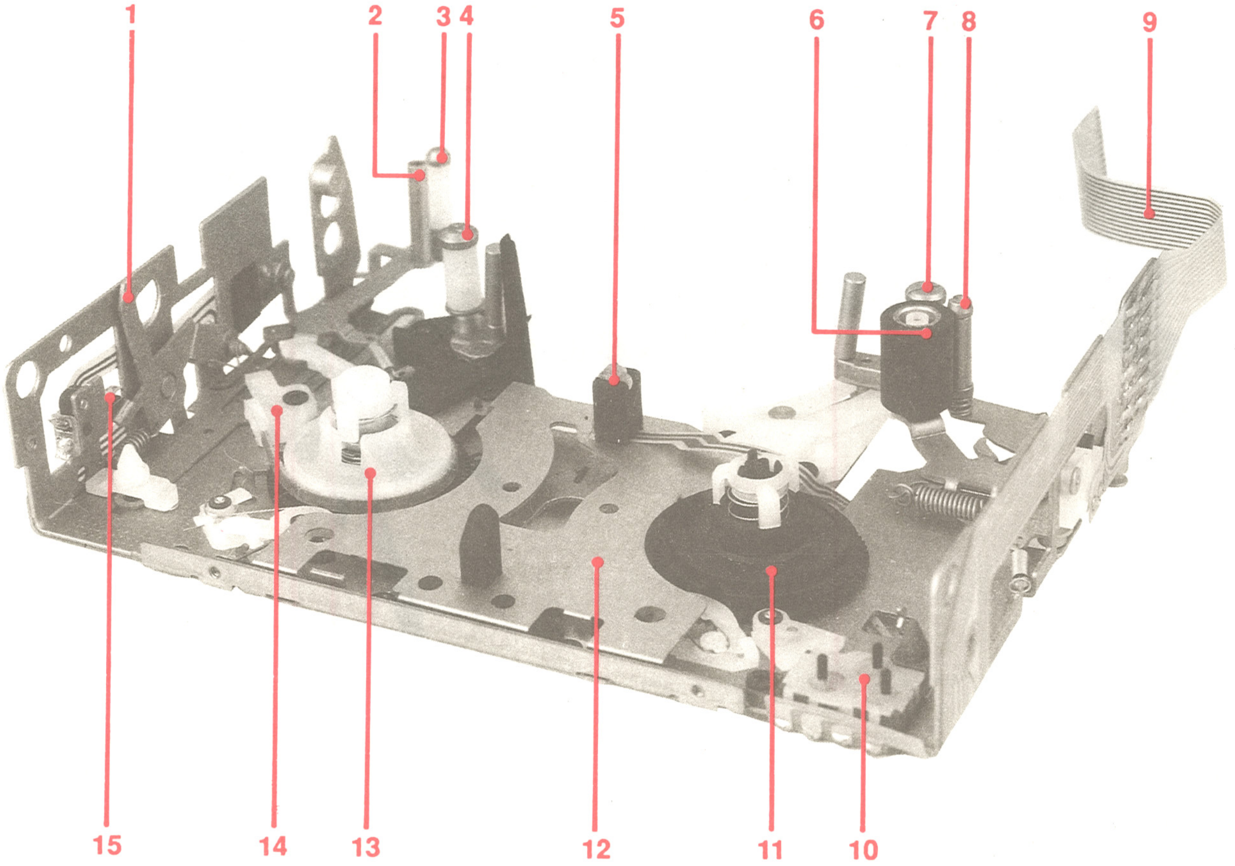


Fig. 12 Sub Deck (Top View)

1. SUB-CHASSIS
2. ARM-TENSION ASS'Y
3. LEVER-GUIDE ASS'Y
4. ARM-POLE BASE S ASS'Y
5. LED-IR
6. ARM-PINCH R ASS'Y
7. ARM-POLE BASE T ASS'Y
8. ARM-REVIEW ASS'Y
9. F.P.C CONNECTION
10. SW-DETECTOR
11. REEL-T ASS'Y
12. COVER-REEL ASS'Y
13. REEL-S ASS'Y
14. HOLDER-TENSION BAND ASS'Y
15. SW-LEAF

3. Housing Ass'y

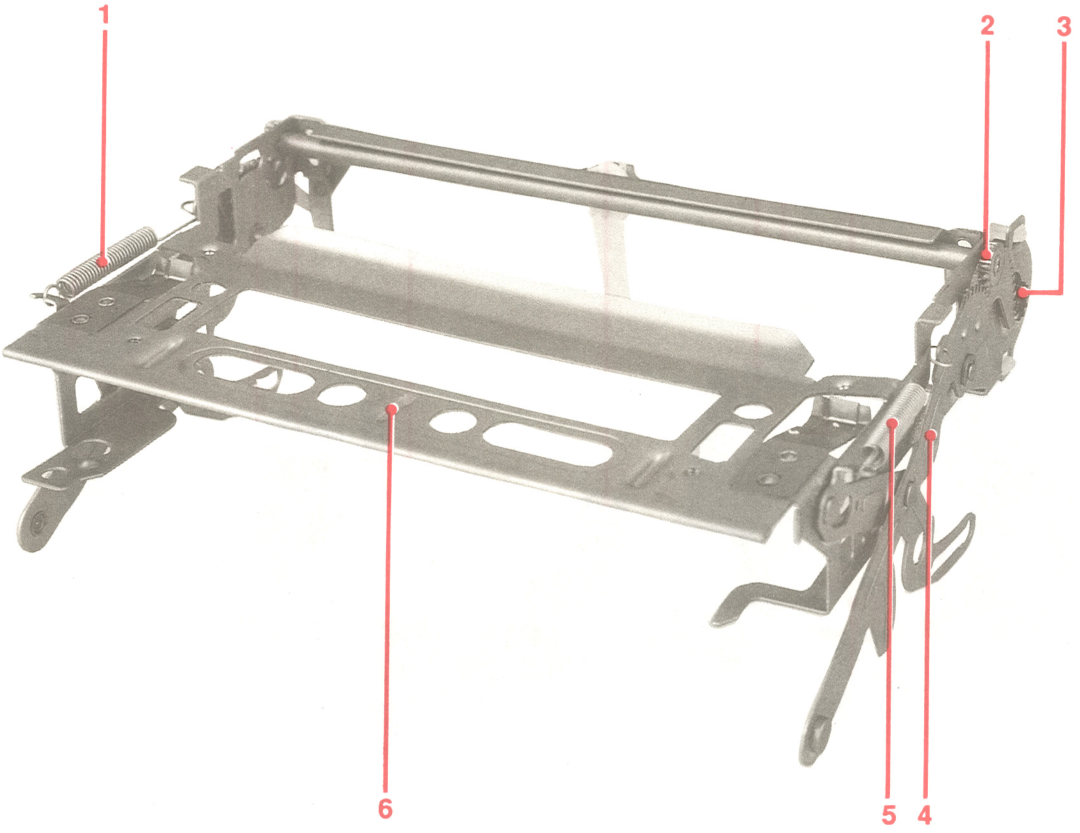


Fig. 13 Housing Ass'y

1. SPRING EJECT L
2. SHAFT-HOUSING ASS'Y
3. DAMPER-HOUSING
4. ARM-R ASS'Y
5. SPRING EJECT R
6. PLATE-HOUSING ASS'Y

4-2-2. Ready for Operation

1. Make sure Main Power S/W is turned off.
2. Connect lead connector and F.P.C to VCR Main Board.
3. Turn the Main Power S/W on.
4. Load a tape and make sure that Auto Loading is working.
5. Confirm the stop mode.
6. Check the Deck movement by pressing PLAY, FF and REW key.
7. Press the Eject (Stop) Key.

4-2-3. Deck Operation without Housing Ass'y & Tape (See Fig. 15)

1. Cover the LED assembly with ① ELECTRICAL TAPE.
2. Push the Lever Stopper ③ in the dirrection of arrow "A" in order to turn the S/W Leaf ② on. (Refer to Fig. A)
3. Turn on the test mode of the VCR Main board.
4. Follow the procedures for Ready for Operation.

Note : Push the Lever Locker ④ in the direction of arrow "A" in order to eject the tape compulsorily under the condition of Housing loaded.

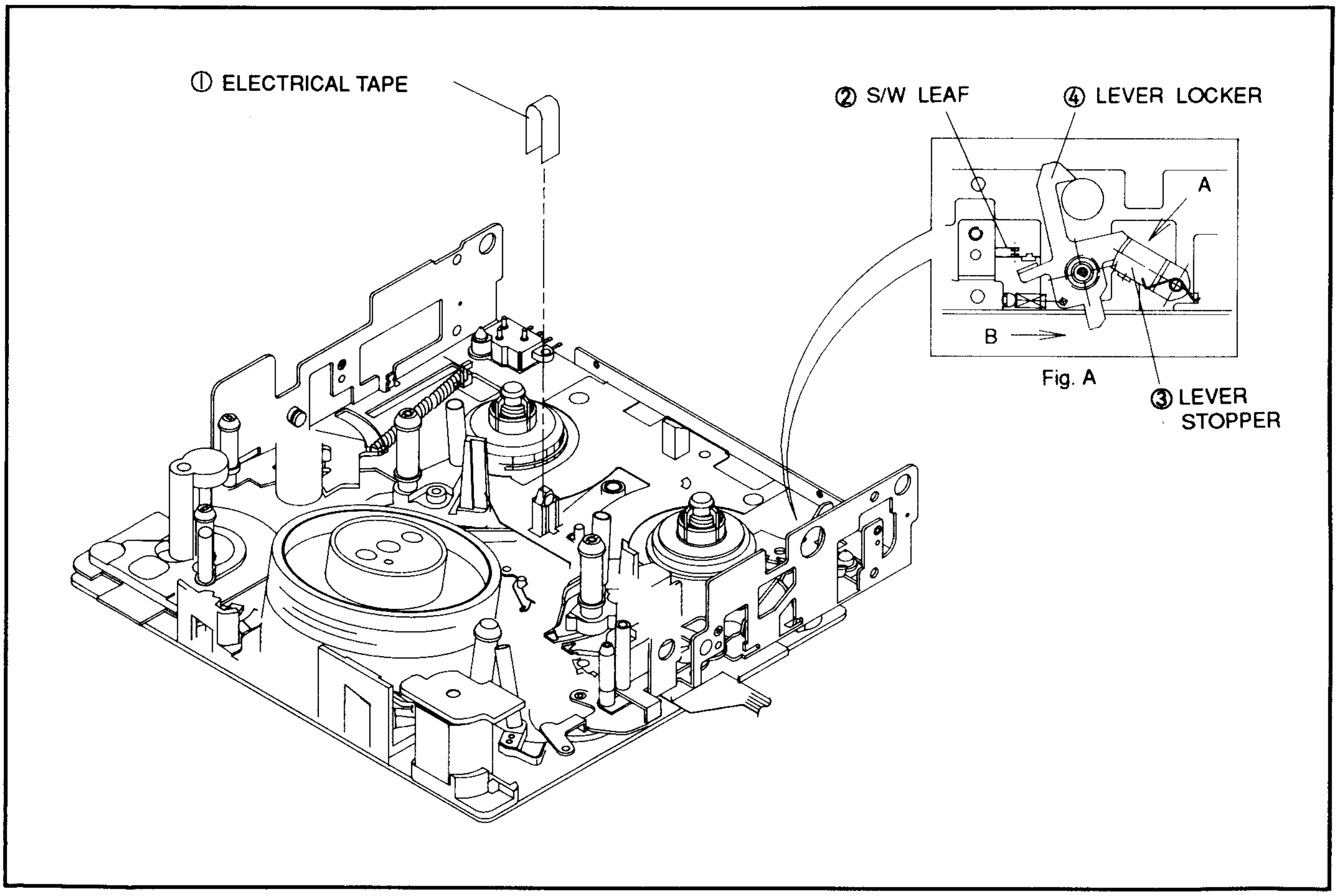


Fig. 14

4-2-4. Housing Ass'y

1. Removal

Note : Be sure to remove the Housing Ass'y when Housing is ejected.

1) Remove four (4) screws ① then remove the Cover Back ②.
2) Remove two (2) Pin Hinges ③ and then remove the Lever Slide ④ as described in Fig. A.

2. Reassembly

1) Mount the Lever Slide ④ to pin as described in Fig. A.
2) Mount the Pin Hinge ③ as described in Fig. b,to the groove by pushing the Housing ⑤ in the direction of arrow A.
3) Assemble the Cover Back ② then fasten four (4) screws ①.

Note : After assembling, make sure Housing Ass'y is performing properly by installing Housing.

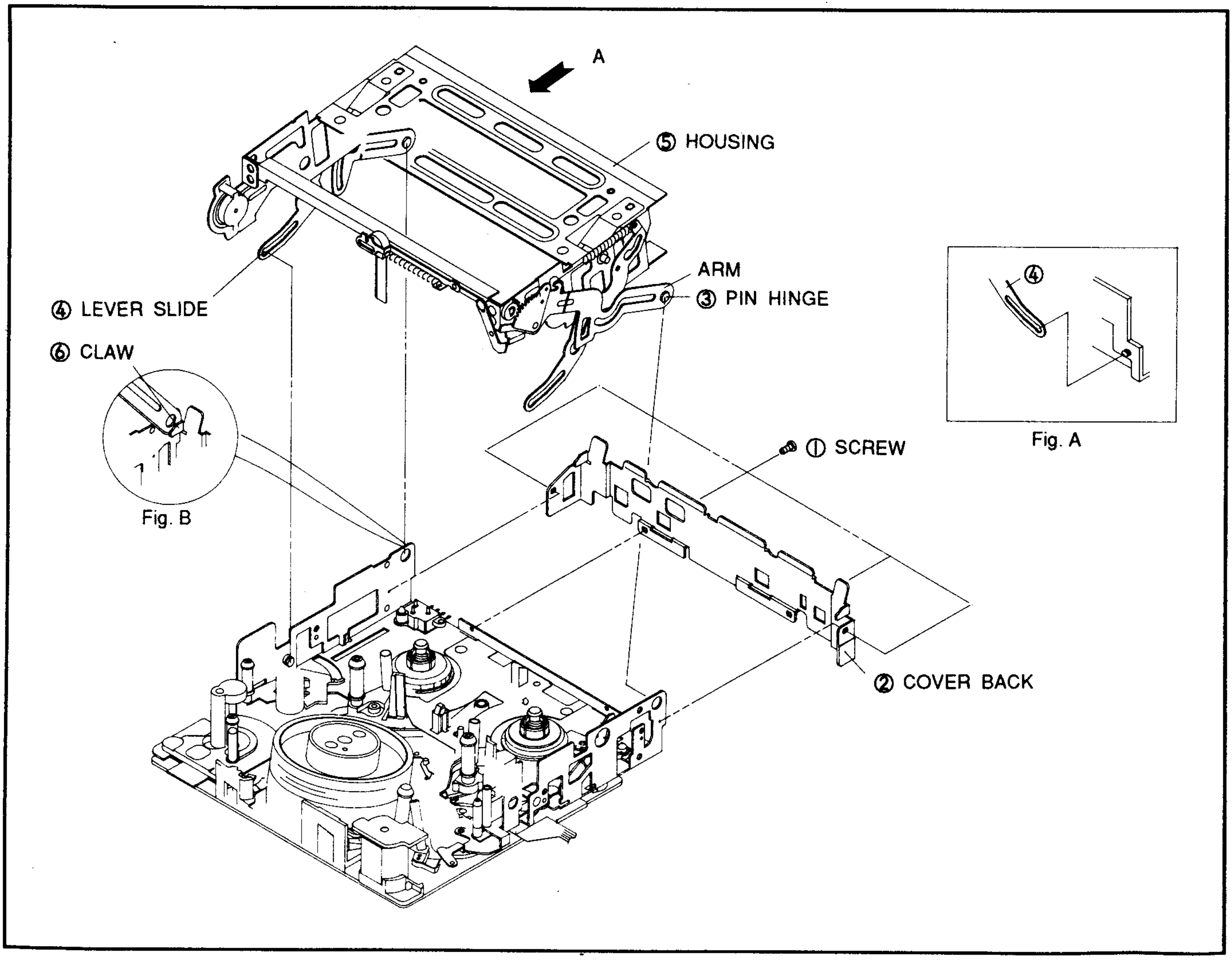

A
⑤ HOUSING
ARM
③ PIN HINGE
④ LEVER SLIDE
⑥ CLAW
Fig. B
④
Fig. A
① SCREW
② COVER BACK

Fig. 15

4-2-5. Drum Ass'y

1. Removal

> **Note :** Take extreme care when removing the Drum Ass'y ⑩.
> Do not touch the Head Tip ⑪ during servicing.

1) Remove the Housing Ass'y. (Refer to section 4-2-4)
2) Remove one (1) screw ①, then remove the Guide Tape T ②.
3) Remove two (2) screws ④, ⑤, then remove the Base Drum ⑥.
4) Remove one (1) screw ⑦, then remove the Earth Brush ⑧.
5) Remove two (2) screws ⑨, then remove the Drum Ass'y ⑩.

2. Reassembly

1) Mount the Drum Ass'y ⑩ to the Boss ⑫ of Base Drum ⑥ and secure two (2) screws ⑨.
2) Mount the Earth Brush ⑧ then secure one (1) screw ⑦.
3) Mount the Base Drum ⑥ to the Main Deck and then secure two (2) screws ④, ⑤.
4) Mount the Guide Tape T ② and then secure one (1) screw ①.

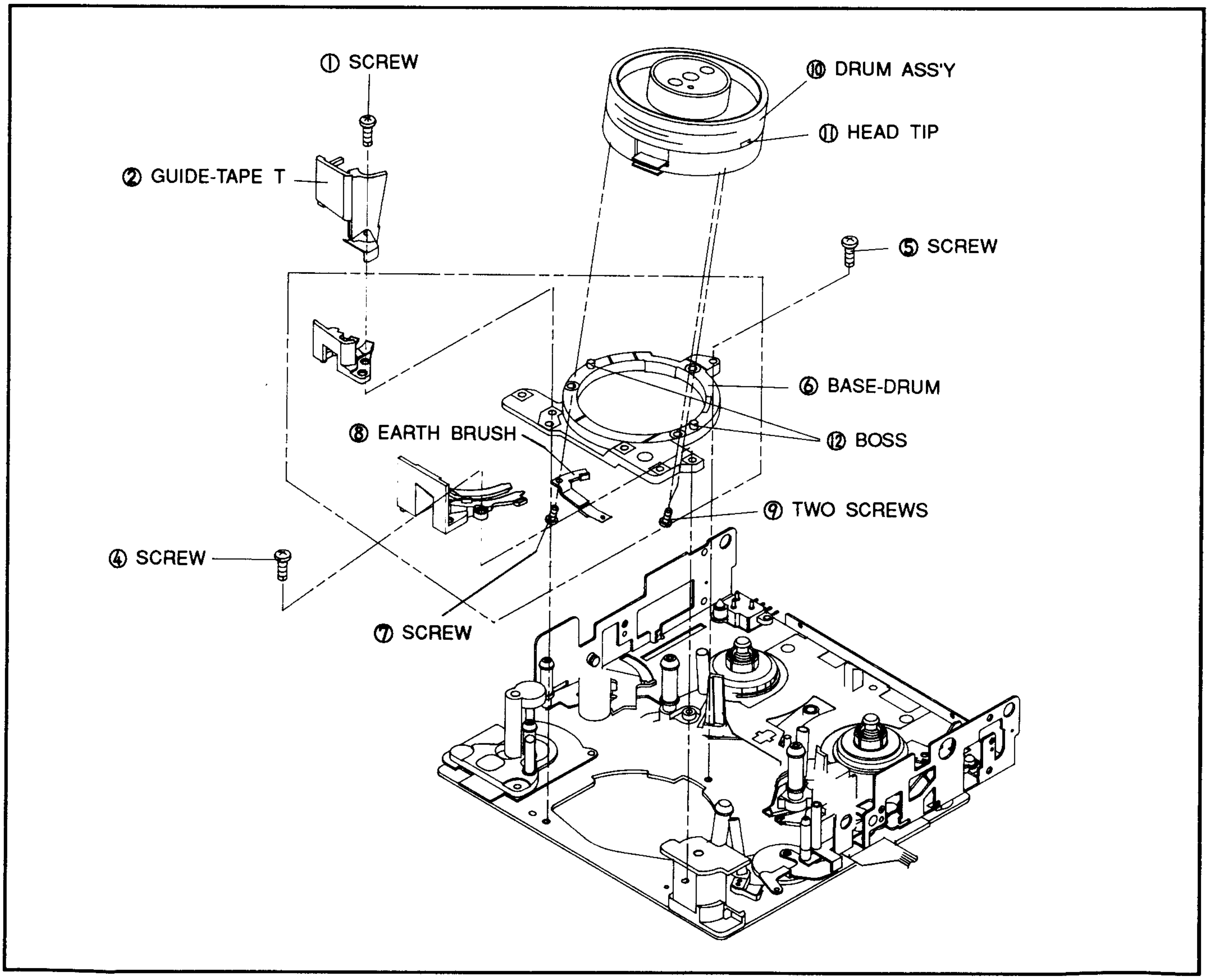

① SCREW
⑩ DRUM ASS'Y
⑪ HEAD TIP
② GUIDE-TAPE T
⑤ SCREW
⑥ BASE-DRUM
⑧ EARTH BRUSH
⑫ BOSS
⑨ TWO SCREWS
④ SCREW
⑦ SCREW

Fig.16

4-2-6. Idler Ass'y

1. Removal

1) Remove two (2) screws ① and one (1) screw ⑨ and then remove the Cover Reel ③ from the Deck.
2) Take out the Holder LED ② from the Cover Reel ③.
3) Remove the Washer Slit ④ from Idler Ass'y ⑤ and then remove the Idler Ass'y ⑤ from the Pin ⑥.

2. Reassembly

1) Fit the Idler Ass'y ⑤ into the Pin ⑥, and then install it with the Washer Slit ④.
2) Mount the Cover Reel ③ to the Deck Ass'y.
3) At that time, place the Pin Idler ⑦ into the Guide Home ⑧ of the Cover Reel ③.
4) Mount the Holder LED ② to the Cover Reel ③.
5) Fasten two (2) screws ① and one (1) screw ⑨.

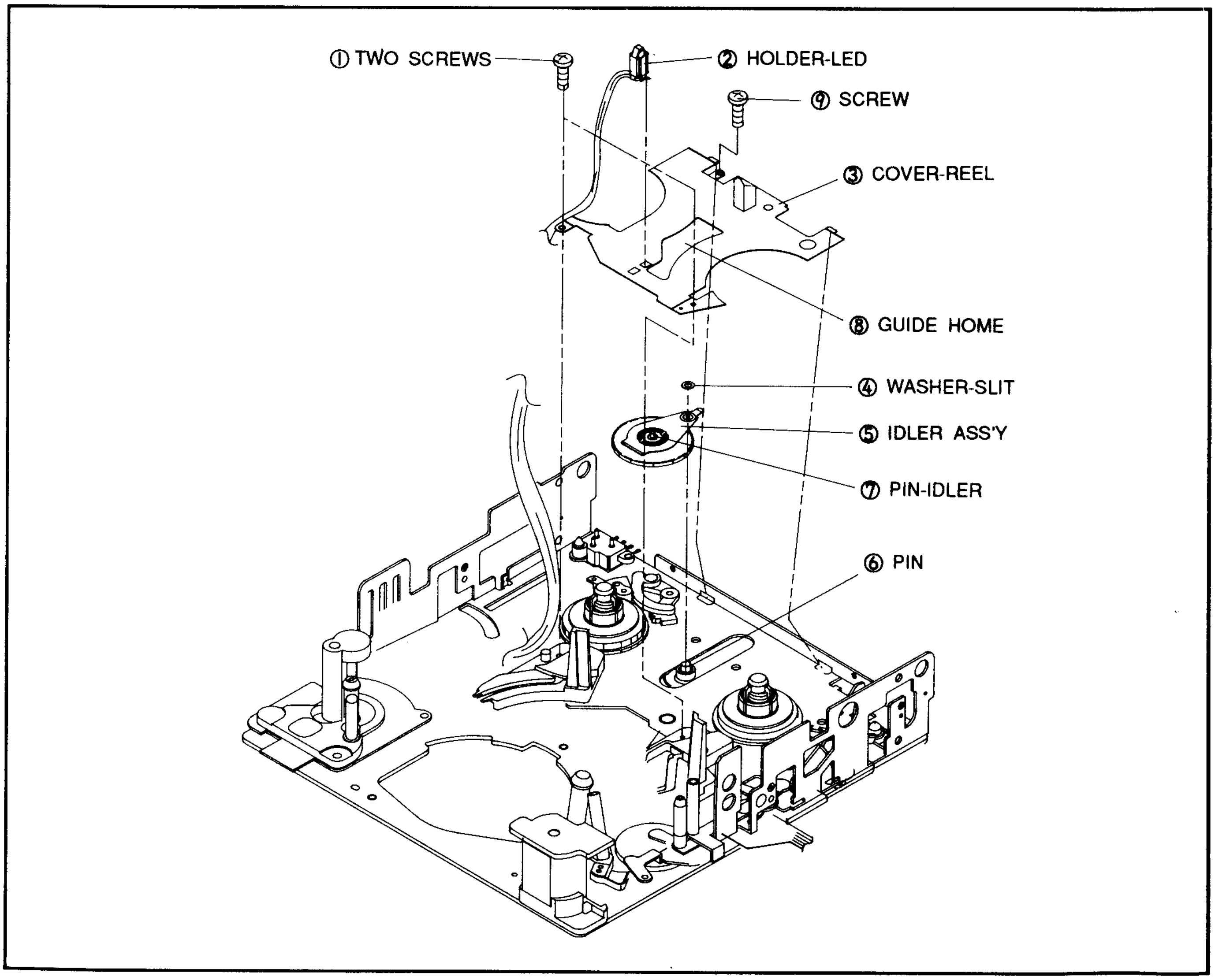

① TWO SCREWS
② HOLDER-LED
⑨ SCREW
③ COVER-REEL
⑧ GUIDE HOME
④ WASHER-SLIT
⑤ IDLER ASS'Y
⑦ PIN-IDLER
⑥ PIN

Fig. 17

4-2-7. Sub Deck Ass'y Removal from the Main Deck Ass'y

1. Removal

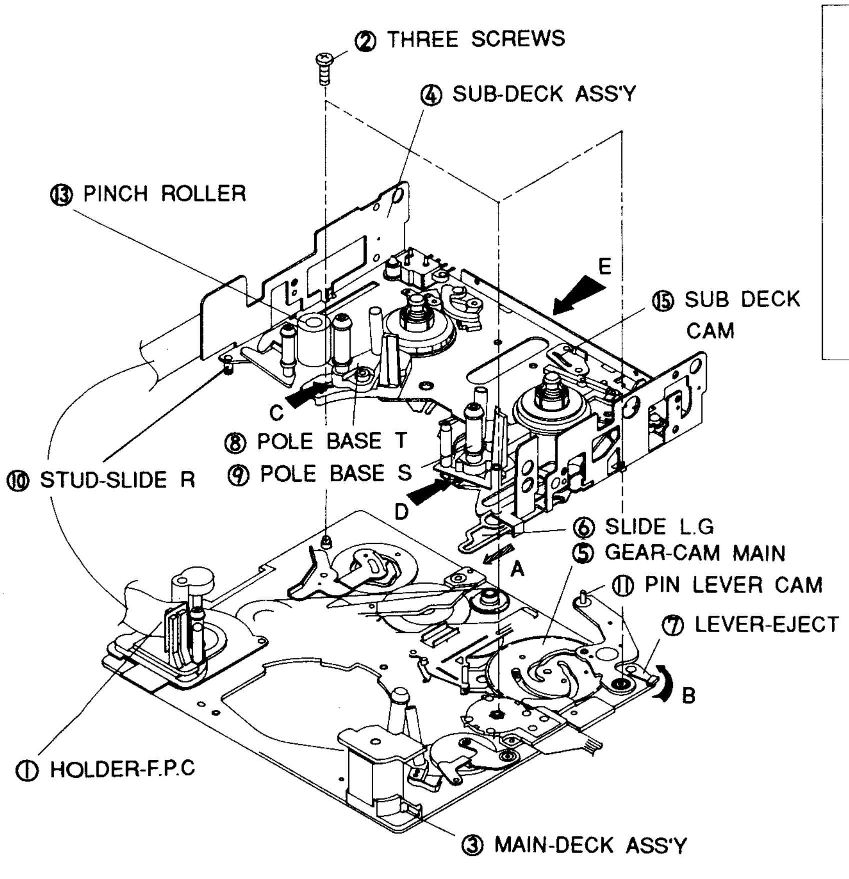
Note :
1) When disassembling, take care not to damage the other parts.
2) Always remove the Sub Deck Ass'y when Deck Ass'y is in eject mode.

1) To remove Sub Deck Ass'y, remove Idler Ass'y first. (Refer to 4-2-6)
2) Take out the Holder F.P.C ① from the Main Deck Ass'y ③.
3) Remove three (3) screws ②.
4) Remove the Sub Deck Ass'y ④ from the Main Deck Ass'y ③.

2. Reassembly

1) Align main base hole with Gear-cam main holes as shown in the Fig. A. (Refer to install point)
2) Push the Pole Base T ⑧ and the Pole Base S ⑨ in the direction of arrows "C", "D".
3) Position out the Slider L.G ⑥ toward "A", and then push the Lever Eject ⑦ toward "B".
4) Put in the Stud Slide R ⑩ to the slider area of Main Base as described in Fig. B.
Insert the pin Lever Cam ⑪ into the Sub Deck Cam ⑮.
5) Fit the Slider L.G ⑥ to the Bush screw of the Main Deck and then confirm whether the Plate Slide ⑭, and the Arm Loading are fixed correctly as shown in the Fig C.
6) Install the Sub Deck with three (3) screws ②.
7) Install the Holder F.P.C ① to the Main Deck Ass'y ③.

Note : After assembling the Sub-Deck Ass'y, make sure that the Sub-Deck Ass'y is performing correctly with power supply 3V to loading Motor change voltage direction.


② THREE SCREWS
④ SUB-DECK ASS'Y
⑬ PINCH ROLLER
E
⑮ SUB DECK CAM
C
⑧ POLE BASE T
⑩ STUD-SLIDE R
⑨ POLE BASE S
D
⑥ SLIDE L.G
⑤ GEAR-CAM MAIN
A
⑪ PIN LEVER CAM
⑦ LEVER-EJECT
B
① HOLDER-F.P.C
③ MAIN-DECK ASS'Y

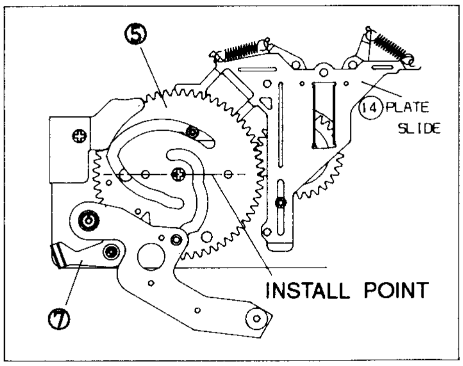

⑤
⑭ PLATE SLIDE
INSTALL POINT
⑦

Fig. A

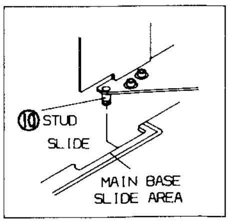

⑩ STUD SLIDE
MAIN BASE SLIDE AREA

Fig. B

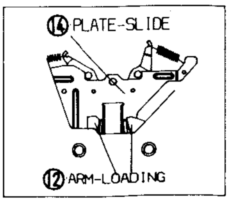

⑭ PLATE-SLIDE
⑫ ARM-LOADING

Fig. C

Fig. 18

4-2-8. Arm Pole Base S, Arm Pole Base T

1. Removal

1) Take out the Pole Base S ① from Rail S ③ in the direction of arrow "B", and remove the Arm Loading S ⑤ from Sub Deck as described in Fig. A.
2) Take out the Pole Base T ② from Rail T ④ in the direction of arrow "A", and remove the Arm Loading T ⑥ from Sub Deck as described in Fig. A.

2. Reassembly

1) Insert the Arm Loading S to the Sub Deck, and turn in the direction of arrow "C", and then put in the two pins of the Pole Base S ① to the Rail S ③ in the opposite direction of arrow "B".
2) Insert the Arm Loading T to the Sub Deck (Refer to Fig. A and turn in the direction of arrow "D", and then put in the two pin of the Pole Base T ② to the Rail T ④ in the opposite direction of arrow "A".

Note : When assembling, be careful not to stain the Roller and slant Pole of the Pole Base from the oil, grease, etc.

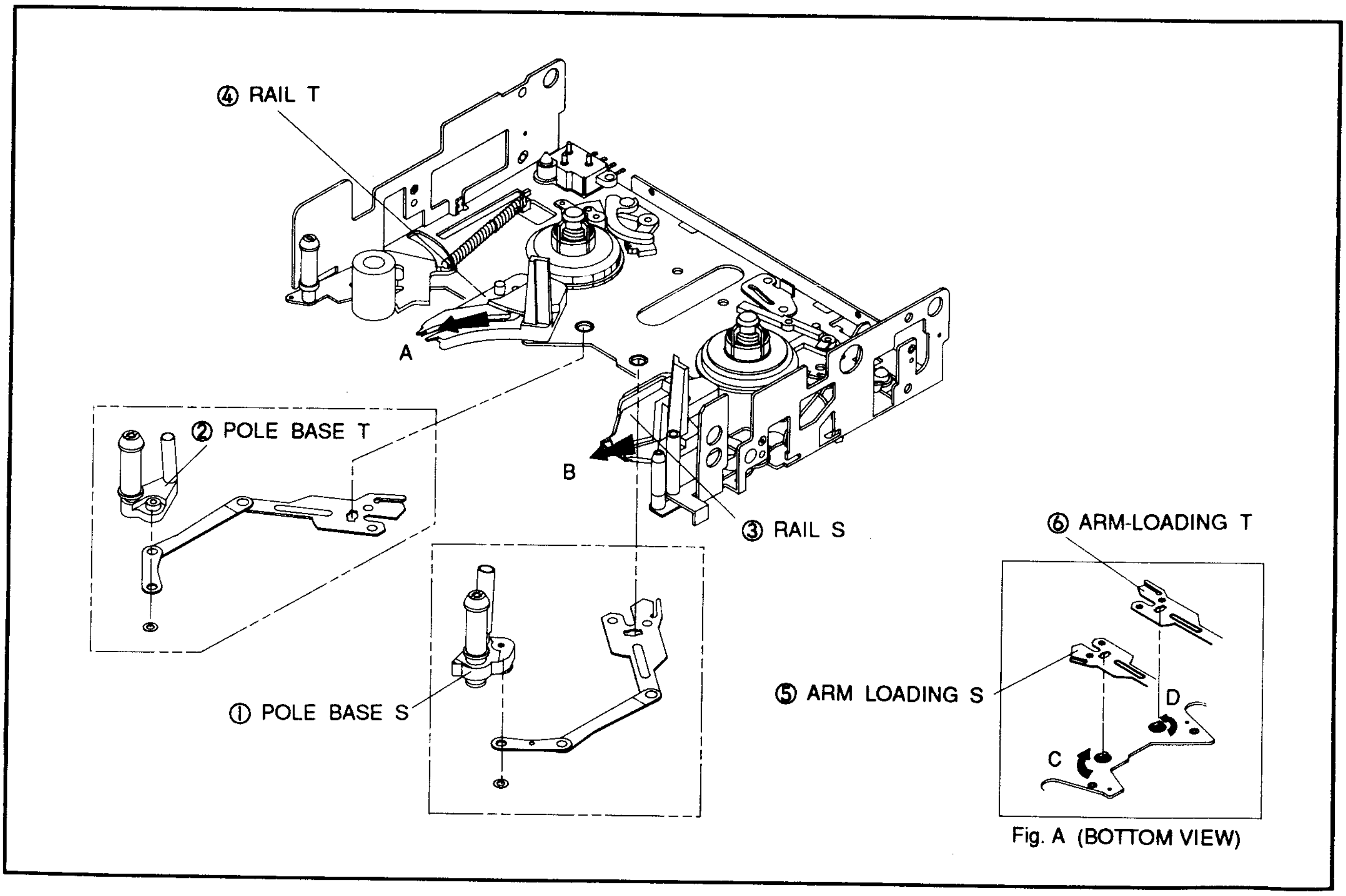

④ RAIL T
A
② POLE BASE T
B
③ RAIL S
⑥ ARM-LOADING T
① POLE BASE S
⑤ ARM LOADING S
D
C
Fig. A (BOTTOM VIEW)

Fig. 19

4-2-9. Pinch Roller Ass'y & Arm Review Ass'y

1. Removal

1) Remove two (2) Washer Slit ①, and then remove the Arm Review Ass'y ② and Spring Review Arm ③.
2) Take out the Spring Lever Pinch ⑤ from Claw ④, then remove the Arm Pinch Roller Ass'y ⑥.

2. Reassembly

1) Put the Arm Pinch Roller Ass'y ⑥ in the bush, and attach the Spring Lever Pinch ⑤ on the Claw ④.
2) Install it with the Washer Slit ①.
3) Put the Spring Review Arm ③ in the bush, and then hook it to the Spring Hanger Area ⑧ of the Arm Review Ass'y ② and to the notch of Stud-Slide ⑦.
4) Install the Arm Review Ass'y ② with the Washer Slit ①.

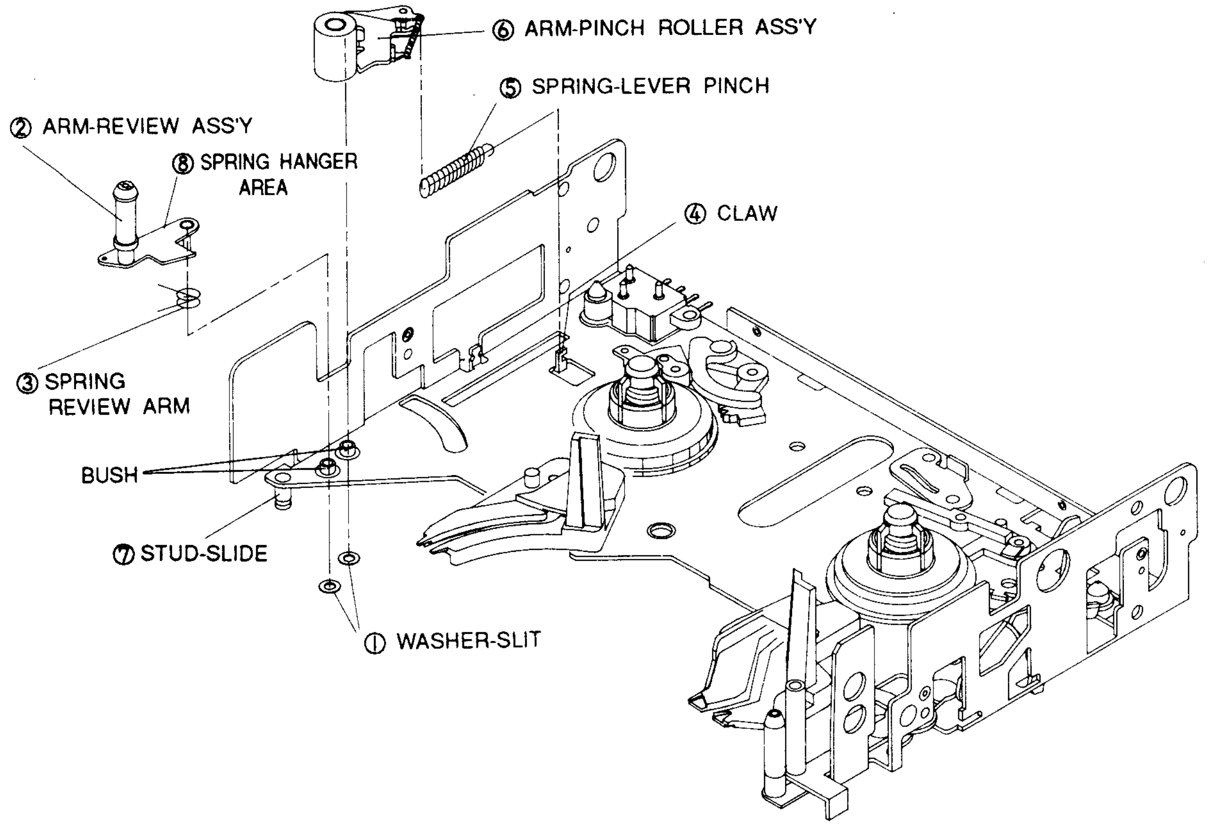

⑥ ARM-PINCH ROLLER ASS'Y
⑤ SPRING-LEVER PINCH
② ARM-REVIEW ASS'Y
⑧ SPRING HANGER AREA
④ CLAW
③ SPRING REVIEW ARM
BUSH
⑦ STUD-SLIDE
① WASHER-SLIT

Fig. 20

4-2-10. Arm Tension Ass'y, Lever Guide Ass'y

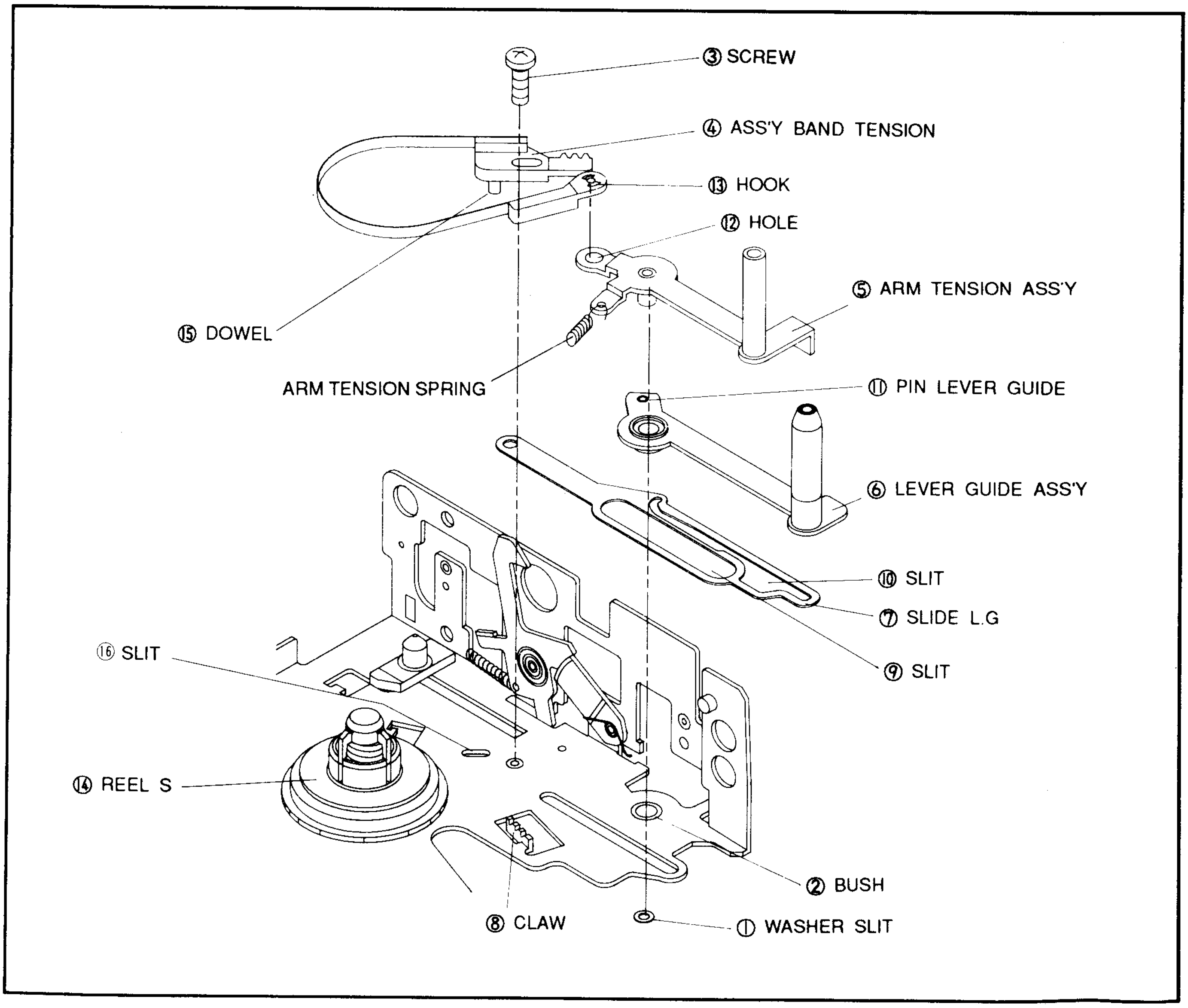
1. Removal

1) Remove the Washer Slit ① and then remove the screw ③.
2) Remove the spring of the Arm Tension Ass'y from the Claw ⑧, and then remove the Arm Tension Ass'y ⑤ from the Bush ②.
3) Release the Hook ⑬ of the Arm Tension Ass'y from the Hole ⑫, and then remove the Ass'y Band Tension.
4) Remove the Lever Guide Ass'y ⑥, and then remove the Slide L.G ⑦ from the Sub Deck Ass'y.

> **Note** : Be careful not to damage and stain the Arm Tension's Pole part and Lever Guide Assy's Roller part with oil.

2. Reassembly

1) Mount the Slide L.G ⑦ in order to position the Bush into the Slit ⑨ of the Slide L.G ⑦.
2) Mount the Lever Guide Ass'y ⑥ to Bush ②, at that time place the Pin Lever Guide ⑪ into the Slit ⑩.
3) Mount the Arm Tension Assy's ⑤ shaft to the Lever Guide Ass'y ⑥ bush, and then attach the spring of the Arm Tension Ass'y ⑤ on the Claw ⑧.
4) Put in the Hook ⑬ of the Ass'y Band Tension ④ to the Hole ⑫, and then Mount the Ass'y Band Tension ④ so that its Dowel ⑮ aligns with the Slit 16 of the Sub Deck.
5) Install the Ass'y Band Tension ④ with the screw ③.
6) Install the Arm Tension Ass'y ⑤ with the Washer Slit ①.



③ SCREW
④ ASS'Y BAND TENSION
⑬ HOOK
⑫ HOLE
⑤ ARM TENSION ASS'Y
⑮ DOWEL
ARM TENSION SPRING
⑪ PIN LEVER GUIDE
⑥ LEVER GUIDE ASS'Y
⑩ SLIT
⑦ SLIDE L.G
⑨ SLIT
⑯ SLIT
⑭ REEL S
② BUSH
⑧ CLAW
① WASHER SLIT

Fig. 21

4-2-11. Rail Guide S, Rail Guide T, Locker-Sub Chassis

1. Removal

1) Remove the Arm Pole Base S, Arm Pole Base T. (Refer to Fig. 19)
2) Remove the screw ①, then remove the Rail Guide T ②.
3) Remove the screw ③, then remove the Rail Guide S ④.
4) Remove the two screws ⑤, and then remove the Locker Sub Chassis ⑥.

2. Reassembly

1) Install in reverse order.

Note :
1) After installing the Rail Guide S ④ and the Rail Guide T ②, make sure that projection boss on the bottom side and the hole are aligned correctly.
2) Be sure to use the standard screws.

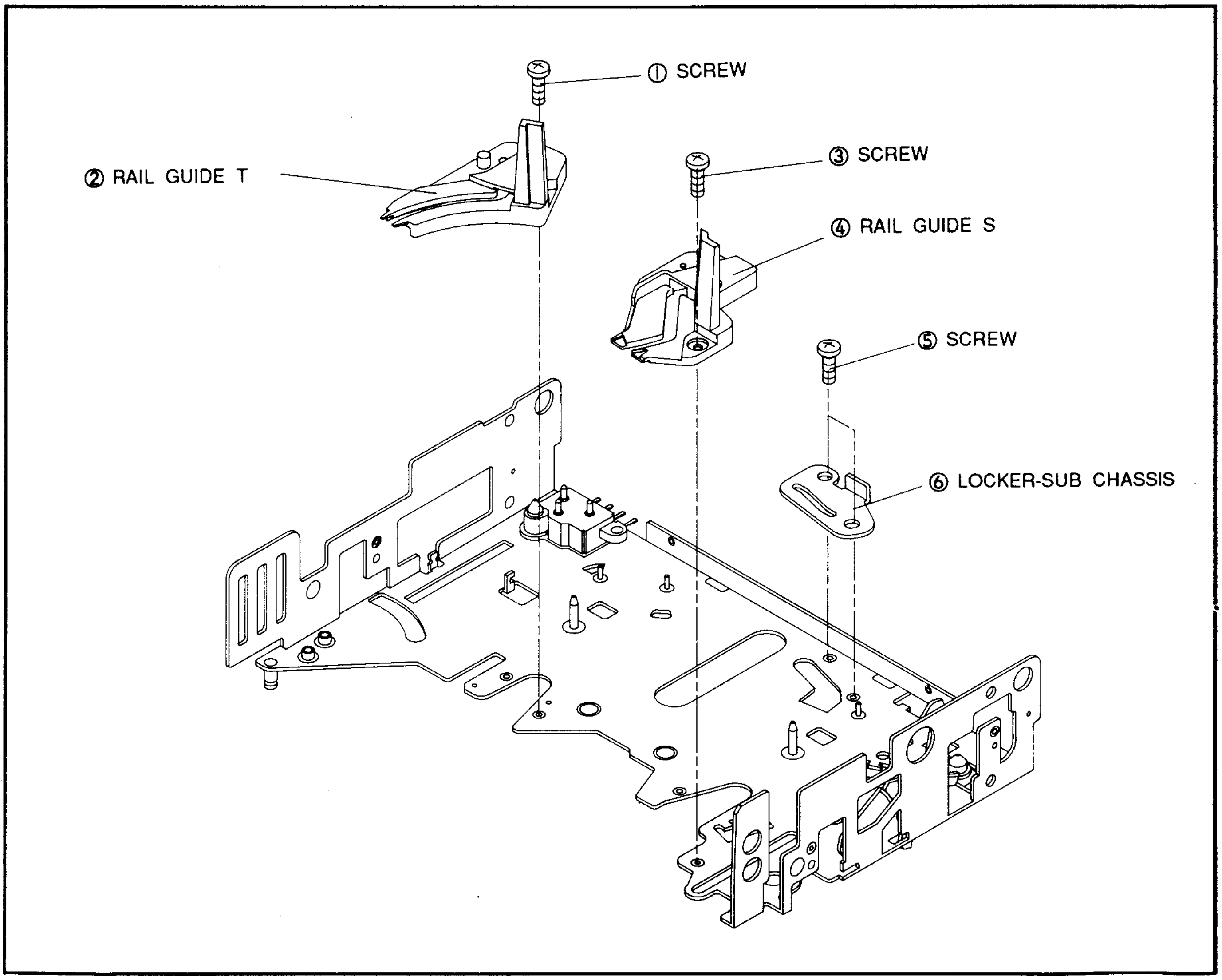

① SCREW
② RAIL GUIDE T
③ SCREW
④ RAIL GUIDE S
⑤ SCREW
⑥ LOCKER-SUB CHASSIS

Fig. 22

4-2-12. Reel S, T Ass'y, Arm Clutch, Lever Brake S, T

1. Removal

1) Remove the Ass'y Tension Band. (Refer to Fig. 21)
2) Remove the Washer Slit ①, and then remove the Lever Brake S ② and Spring Lever Brake S ③.
3) Remove the Washer Slit ④, and Spring Arm Brake S ⑤, and then remove the Arm Brake S ⑥.
4) Lift up the Reel S ⑦, and then take out the Washer Plane ⑧.
5) Remove the Washer Slit ⑩, and then remove the Lever Brake T ⑪.
6) Remove the Washer Slit ⑫, and then remove the Ass'y Arm Clutch ⑬.
7) Lift up the Reel T ⑨.

2. Reassembly

1) Mount the Reel T ⑨.
2) Put the Ass'y Arm Clutch ⑬ into the slit Home ⑭ of the Sub Deck Ass'y, and then install it with the Washer Slit ⑫.
3) Put the Lever Brake T ⑪ into the Slit Home ⑮ of the Sub Deck Ass'y, and then install it with the Washer Slit ⑩.
4) Put in the Washer Plane ⑧ into shaft, and then mount the Reel S ⑦ to shaft.
5) Put in the Arm Brake S ⑥, and install the Spring Arm Brake S ⑤ (Refer to Fig. A), and then install it with the Washer Slit ④.
6) Put in the Spring Lever Brake S ③, and install the Lever Brake S ② (Refer to Fig. A), and then install the Washer Slit ①.

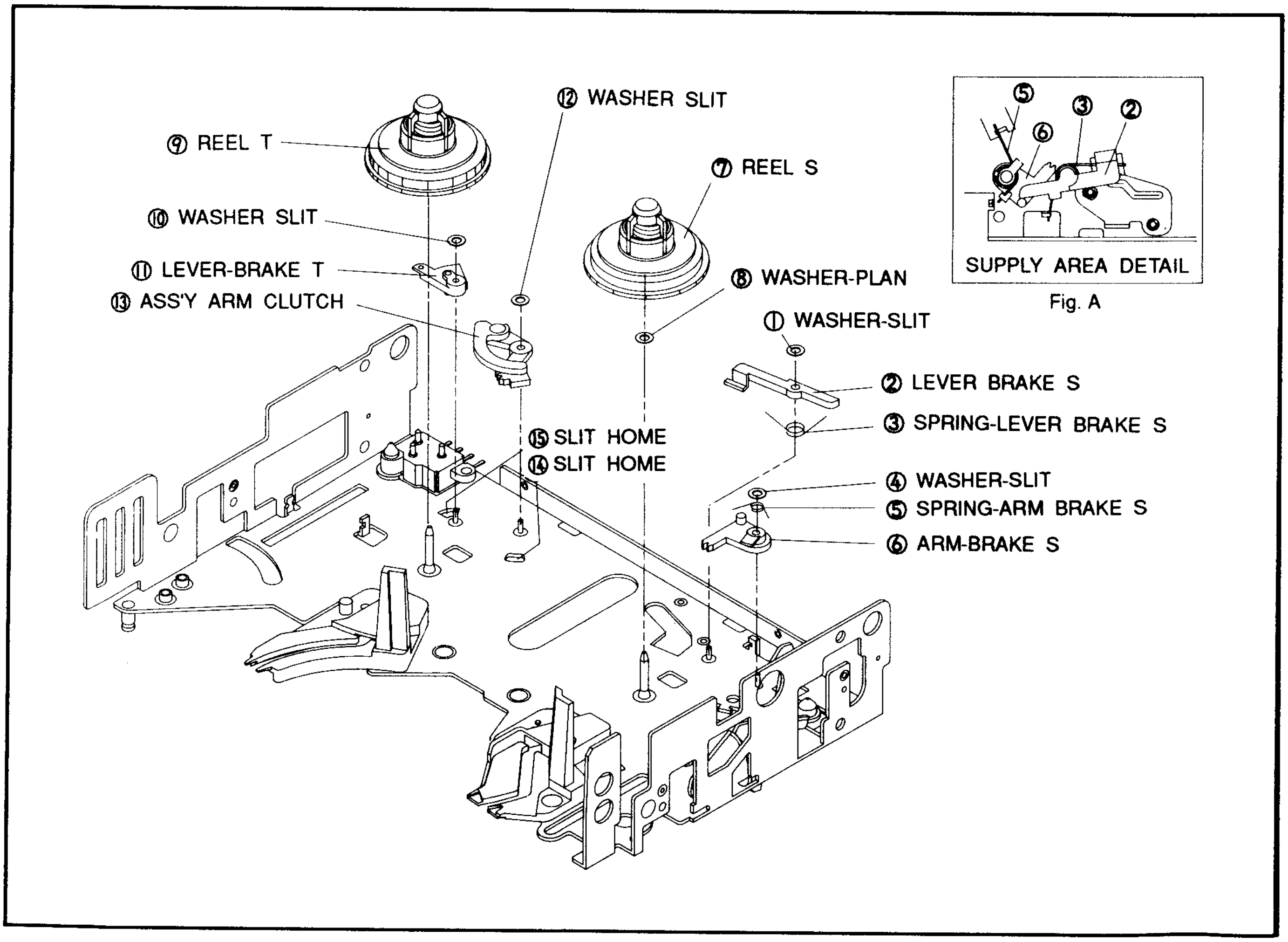

⑫ WASHER SLIT
⑨ REEL T
⑦ REEL S
⑩ WASHER SLIT
⑪ LEVER-BRAKE T
⑬ ASS'Y ARM CLUTCH
⑧ WASHER-PLAN
① WASHER-SLIT
② LEVER BRAKE S
③ SPRING-LEVER BRAKE S
⑮ SLIT HOME
⑭ SLIT HOME
④ WASHER-SLIT
⑤ SPRING-ARM BRAKE S
⑥ ARM-BRAKE S
⑤
③
②
⑥
SUPPLY AREA DETAIL
Fig. A

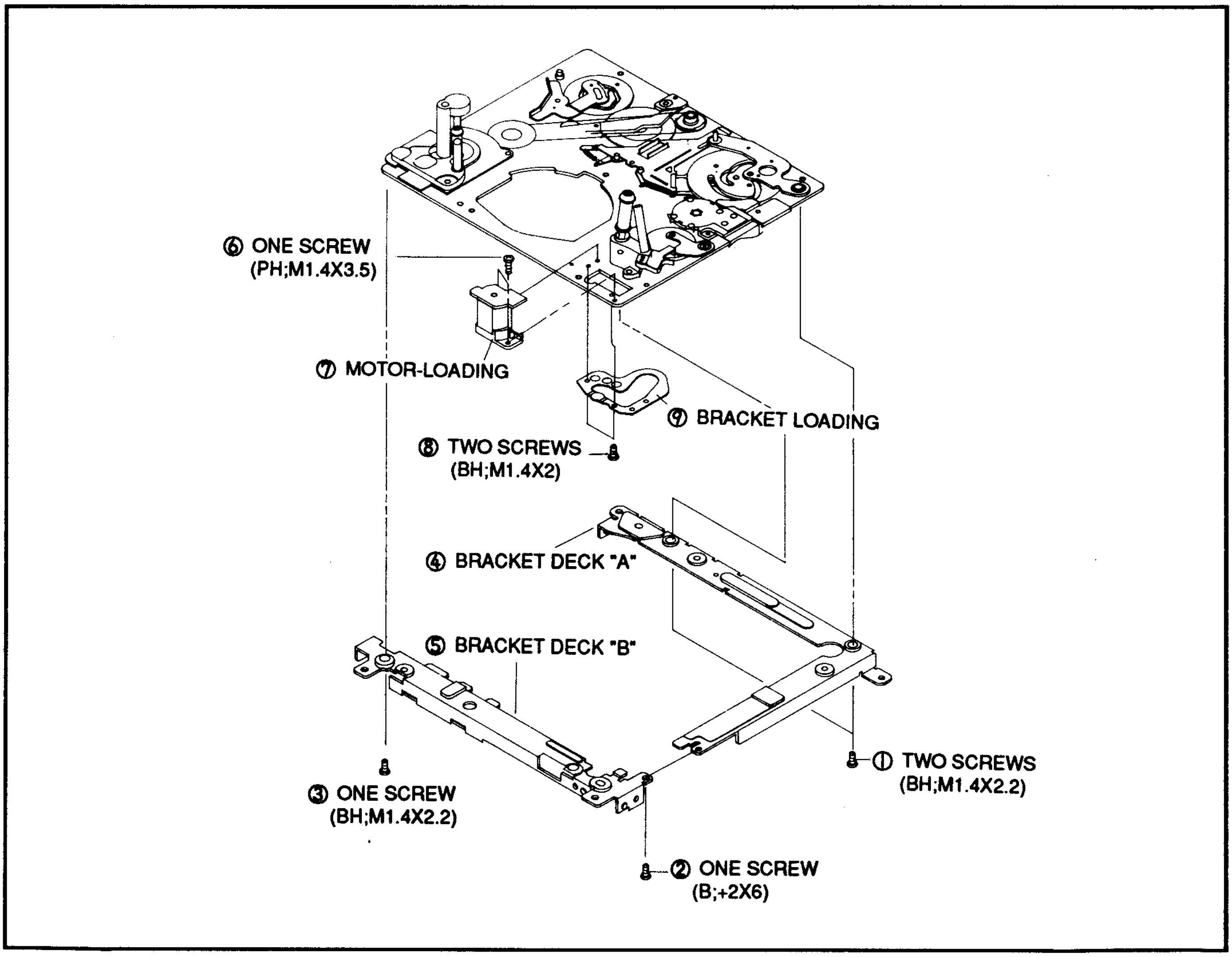
Fig. 23

4-2-13. Loading Motor

1. Removal

1) Remove four (4) screws ①, ②, ③, then remove the bracket deck "A" and "B" ④, ⑤.
2) Remove one (1) screw ⑥, then remove the motor loading ⑦.
3) Remove two (2) screws ⑧, then remove the Bracket loading ⑨.

2. Reassembly : Install in reverse order.



⑥ ONE SCREW (PH;M1.4X3.5)
⑦ MOTOR-LOADING
⑨ BRACKET LOADING
⑧ TWO SCREWS (BH;M1.4X2)
④ BRACKET DECK "A"
⑤ BRACKET DECK "B"
③ ONE SCREW (BH;M1.4X2.2)
① TWO SCREWS (BH;M1.4X2.2)
② ONE SCREW (B;+2X6)

Fig. 24

4-2-14. Motor Capstan, Base Capstan Ass'y

1. Removal

1) Remove two (2) screws ① and one screw ⑦.
2) Remove the Base Capstan Ass'y ② from two (2) Bush ④, then remove Holder F.P.C ⑧ by releasing hook.
3) Remove the Motor Capstan ③ from the three Bush ④.

2. Reassembly : Install in reverse order.

Note : When assembling, make sure that the gears of Motor Capstan ③ and the gears of Gear Capstan Ass'y ⑥ are matched correctly.

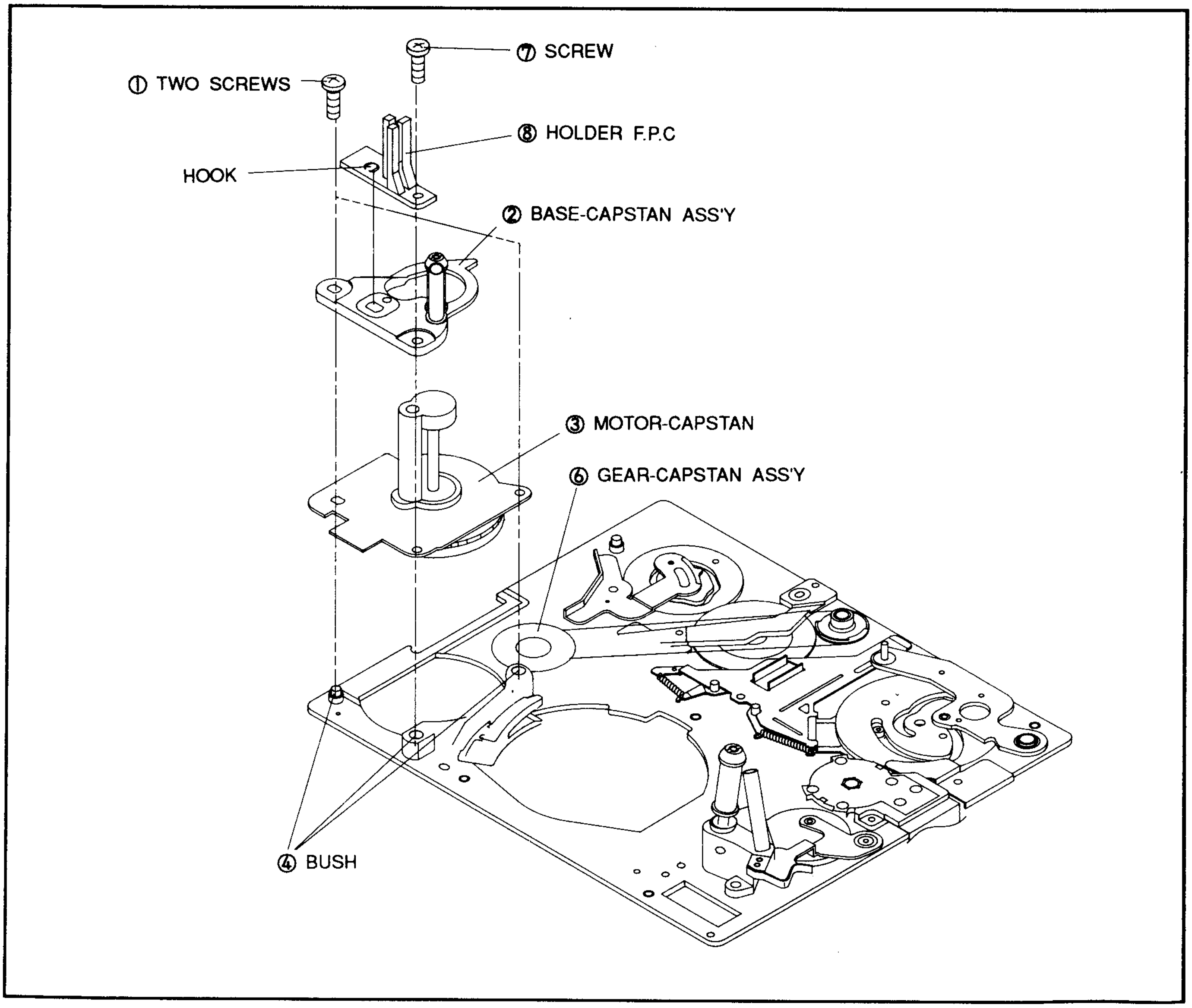

⑦ SCREW
① TWO SCREWS
⑧ HOLDER F.P.C
HOOK
② BASE-CAPSTAN ASS'Y
③ MOTOR-CAPSTAN
⑥ GEAR-CAPSTAN ASS'Y
④ BUSH

Fig. 25

4-2-15. Rail Middle R/L, Gear Capstan Ass'y, Gear Pully Ass'y, Cover Time Belt

1. Removal

1) Remove the Rail Middle R ①, then remove the screw ②, and then remove the Rail Middel L ③ from the Main Deck.
2) Remove the Gear Pully Ass'y ④ from the axle which is attached to the Belt Timing.
3) Remove the Washer Slit ⑥, then the Gear Capstan Ass'y ⑦ from the axle with the timing belt ⑤.
4) Remove the two (2) screws ⑧, then remove the Cover Timing Belt ⑨.

2. Reassembly

1) Mount the Cover Timing Belt ⑨ on the Main Deck, then secure it with the two (2) screws ⑧.
2) Fit the Gear Capstan Ass'y ⑦ to the axle, and then install the Washer Slit ⑥.
3) Attach the Belt Timing ⑤ between the low Gears of the Gear Capstan Ass'y ⑦ and the low Gears of the Gear Pully Ass'y ④, and then fit the Gear Pully Ass'y ④ into the axle with the Belt Timing ⑤ attached. (See Fig. A)
4) Mount the Rail Middle L ③ on the Main Deck, then secure it with the one (1) screw ②, and then Mount the Rail Middle R ① to the Bush.

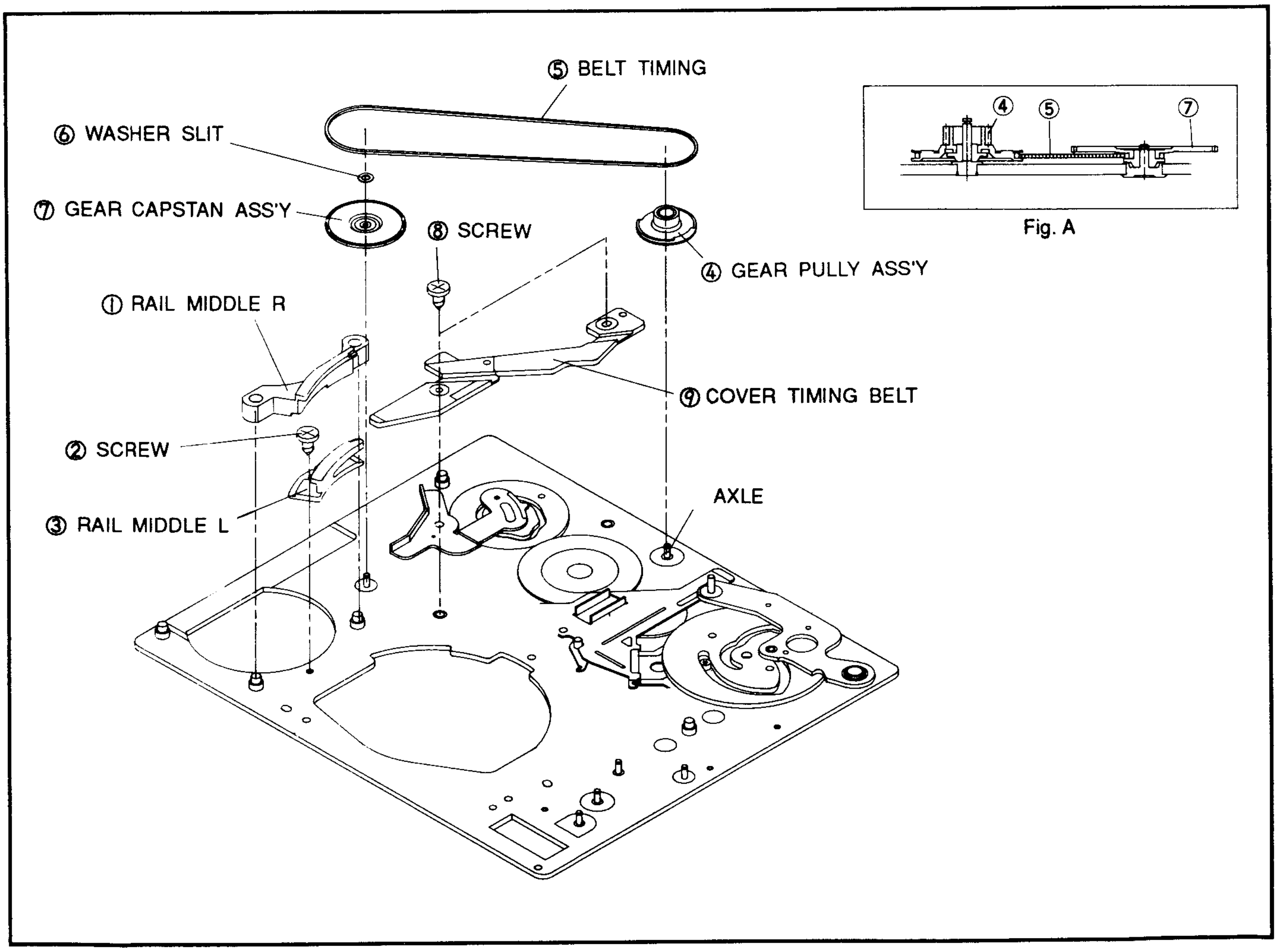

⑤ BELT TIMING
⑥ WASHER SLIT
⑦ GEAR CAPSTAN ASS'Y
⑧ SCREW
④ GEAR PULLY ASS'Y
① RAIL MIDDLE R
⑨ COVER TIMING BELT
② SCREW
AXLE
③ RAIL MIDDLE L
④
⑤
⑦
Fig. A

Fig. 26

4-2-16. Lever Cam Pinch Ass'y, Gear Cam Pinch

1. Removal

1) Remove the two (2) screws ①, then remove the Lever Cam Pinch ② from the Main Deck.
2) Remove the Gear Cam Pinch ③ from the Main Deck.

2. Reassembly

1) Align the hole of Gear Cam Pinch ③ with the hole of Main Base. (Refer to Timing "A")
2) Insert the Lever Cam Pinch ② into the slit of Gear Cam Pinch ③ and secure it with two (2) screws. (Refer to timing "B")

Note : When installing the Gear parts, refer to Fig. 30.

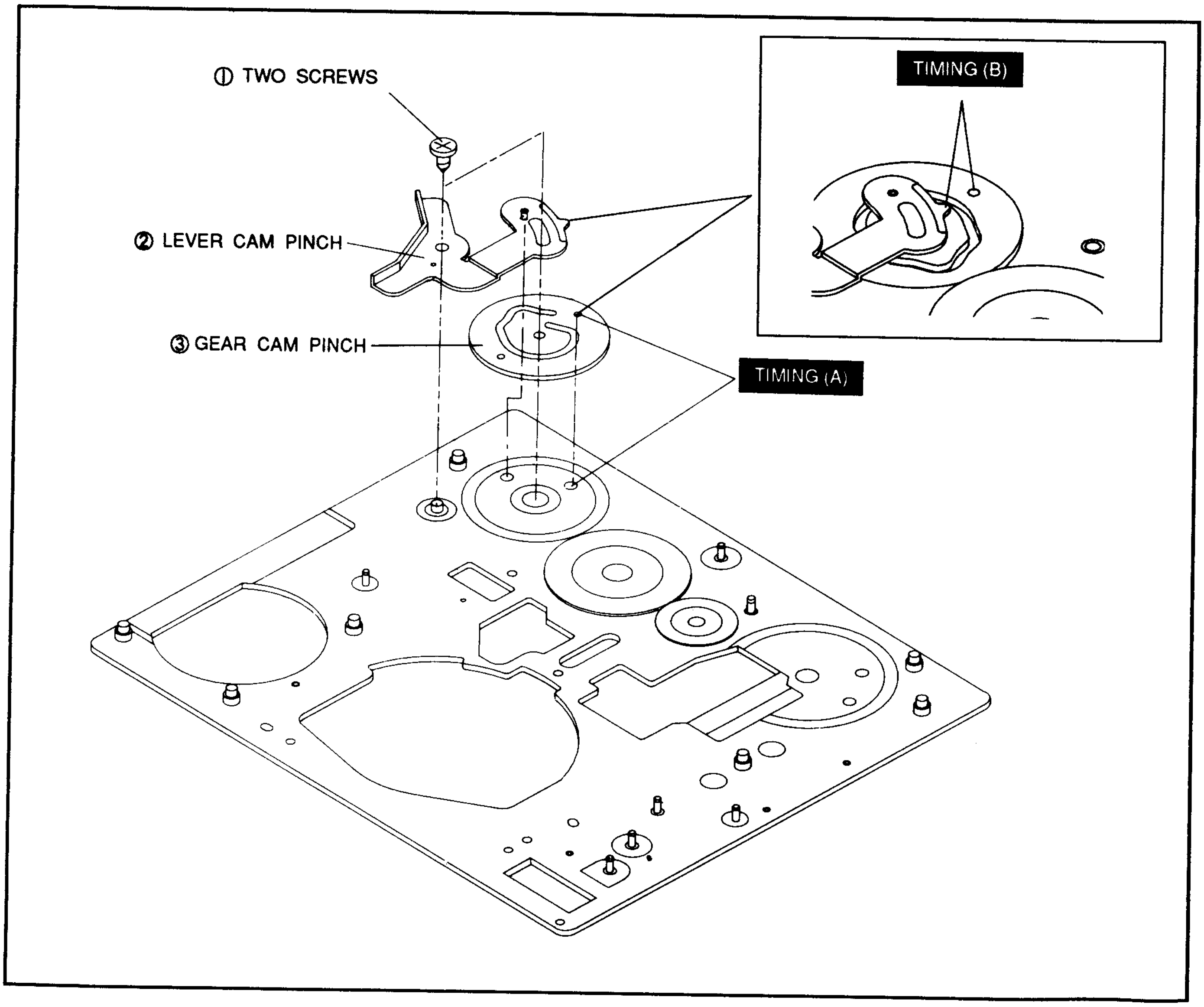

① TWO SCREWS
② LEVER CAM PINCH
③ GEAR CAM PINCH
TIMING (B)
TIMING (A)

Fig. 27

4-2-17. Pole Base Sub Ass'y, Switch Mode Ass'y, Lever Cam Tension, Gear Loading A, Gear Loading B, Gear Cam Tension

1. Removal

1) Remove one (1) screw ①, then remove the Pole Base Sub Ass'y ②.
2) Remove one (1) screw ③, then remove the Guide Mode Switch ④.
3) Remove one (1) screw ⑤, then remove the Switch Mode Ass'y ⑥.
4) Remove the Washer Slit ⑦, then remove the Lever Cam Tension ⑧.
5) Remove the Washer Slit ⑨, then remove the Gear Loading B ⑩.
6) Remove the Washer Slit ⑪, then remove the Gear Cam Tension ⑫.
7) Remove the Washer Slit ⑬, then remove the Gear Loading A ⑭ of the axle.

2. Reassembly

1) Mount the Switch Mode Ass'y ⑥ as described in Timing point (F) of Fig. 30, then secure it with one (1) screw ⑤.
2) Mount the Guide Mode Switch ④, then secure it with one (1) screw ③.
3) Fit the Gear Loading A ⑭ into the axle and then install it with the Washer Slit ⑬.
4) Mount the Gear Cam Tension ⑫ as described in Timing point (G) of Fig. 30, and then install it with the Washer Slit ⑪.
5) Fit the Gear Loading B ⑩ into the axle, then install it with the Washer Slit ⑨.
6) Mount the Lever Cam Tension ⑧ as described in Timing (H) of Fig. 30, then install it with the Washer Slit ⑦.
7) Align the dowel of the Pole Base Sub Ass'y ② with the Guide Hole ⑮, then mount the Pole Base Sub Ass'y ②, and secure it with the screw ①.

Note : Confirm the Timing point of the Switch Mode Ass'y (See Fig. 30).

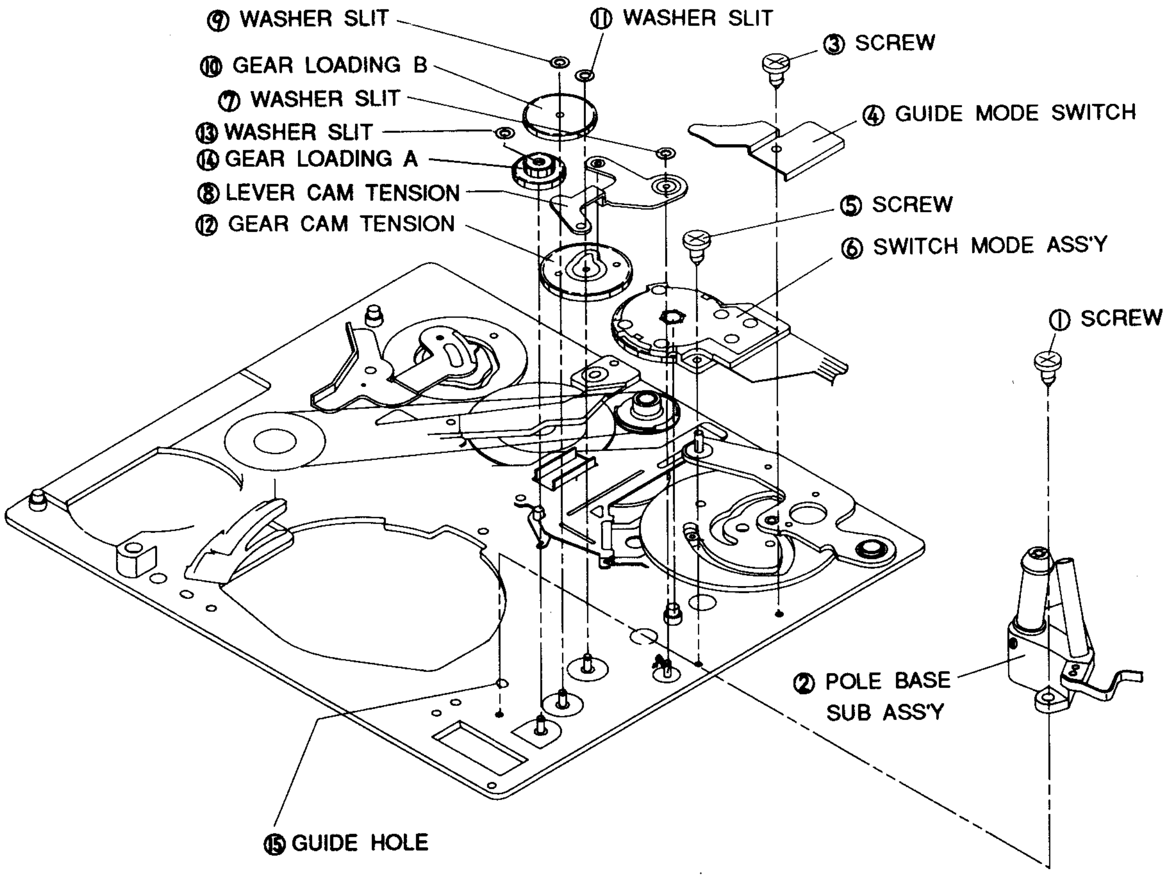

⑨ WASHER SLIT
⑪ WASHER SLIT
③ SCREW
⑩ GEAR LOADING B
⑦ WASHER SLIT
④ GUIDE MODE SWITCH
⑬ WASHER SLIT
⑭ GEAR LOADING A
⑧ LEVER CAM TENSION
⑤ SCREW
⑫ GEAR CAM TENSION
⑥ SWITCH MODE ASS'Y
① SCREW
② POLE BASE SUB ASS'Y
⑮ GUIDE HOLE

Fig. 28

4-2-18. Lever Cam, Lever Eject, Gear Cam Main, Plate Slider Ass'y

1. Removal

1) Remove the Lever Cam Ass'y ① and Roller Cam Main ②.
2) Remove the Lever Eject ③.
3) Remove one (1) screw ④, then remove the Gear Cam Main ⑤.
4) Push the Plate Slide Ass'y ⑦ in the direction of arrow A and remove Plate Slide Ass'y ⑦ and the Roller Cam Main ⑥.

Note :
a) To remove the Gear-Cam Main, remove the Guide Mode Switch first. (Refer to 4-2-17)
b) When removing the Gear Cam Main ⑤, and Lever Cam Main ① from the Main Deck, take care not to lose the Roller Cam Main ②, ⑥. (Refer to Fig. A and Fig. B)

2. Reassembly

1) Insert the Roller Cam Main ⑥ to the Plate Slider Ass'y ⑦ as described in Fig. A, then Mount it to the Main Deck.
2) Pull the Plate Slider Ass'y ⑦ in the direction of arrow B.
3) Install the Gear Cam Main ⑤ so that the hole of Gear Cam Main ⑤ and the hole of Main Base are aligned as shown in the "Timing (D)", then secure it with one (1) screw ④.
4) Install the Lever-Eject on the pin of the Main Base.
5) Insert the Lever Cam Ass'y ① into the groove of the Gear Cam Main ⑤ as shown in the Timing (E).

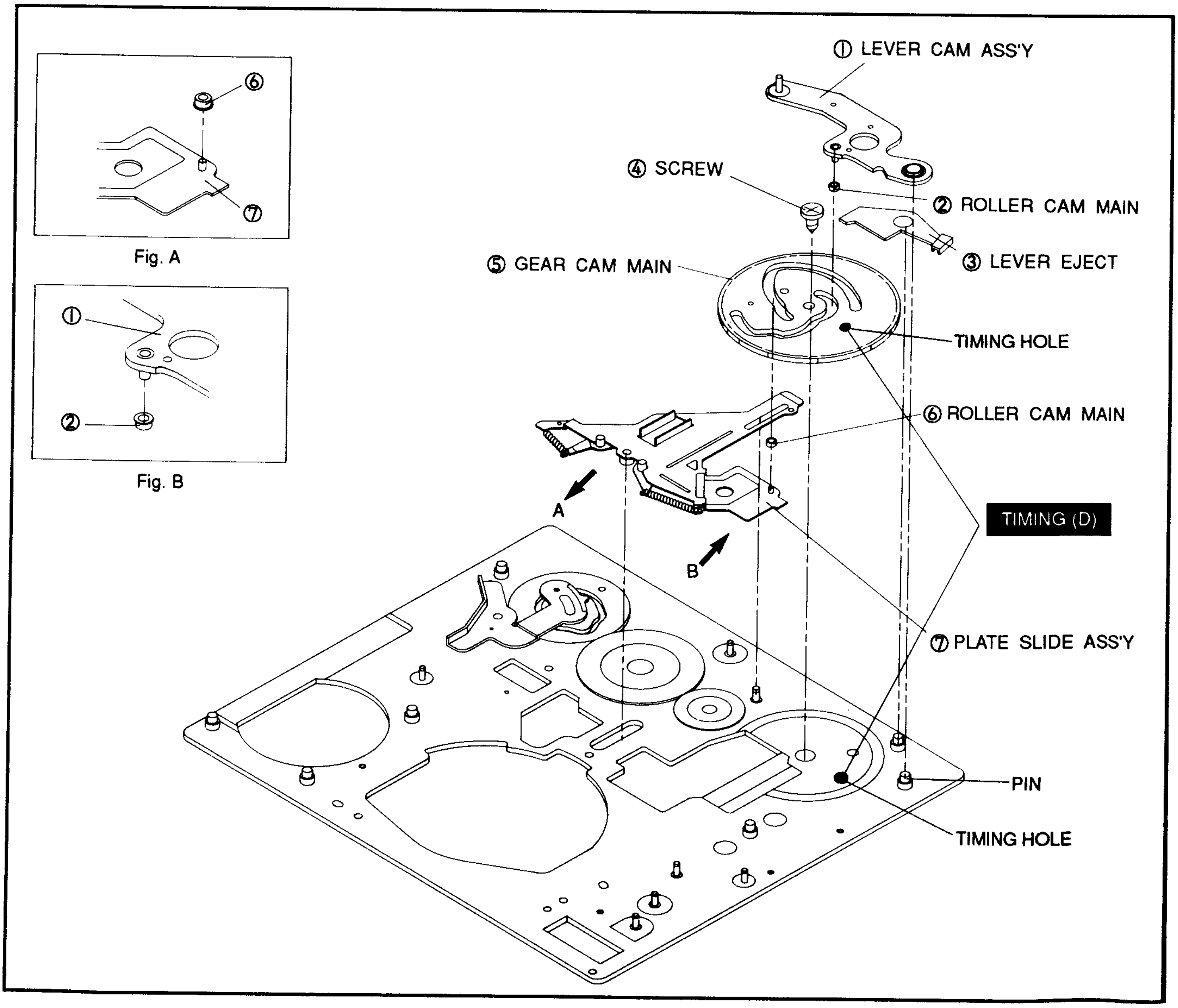

⑥
⑦
Fig. A
①
②
Fig. B
① LEVER CAM ASS'Y
④ SCREW
② ROLLER CAM MAIN
③ LEVER EJECT
⑤ GEAR CAM MAIN
TIMING HOLE
⑥ ROLLER CAM MAIN
A
B
TIMING (D)
⑦ PLATE SLIDE ASS'Y
PIN
TIMING HOLE

Fig. 29

4-2-19. Timing Point in Main Deck

1. Timing Point Explanation

TIMING A : Align install Hole of Gear Cam Pinch ⑦ with Hole on Main Base.
TIMING B : When installing Lever Cam Pinch to Gear Cam Pinch, Timing "B" point of Cam as described in Fig. 30.
TIMING C : After assembling Plate Slider Ass'y ⑥, when installing Gear Cam Main ④, pull the plate Slider Ass'y ⑥ toward arrow and then install the Gear Cam Main ④.
TIMING D : Align Hole of Gear Cam Main ④ with large hole on Main Base.
TIMING E : When installing Lever Cam ⑤ to Gear Cam Main ④, Timing "E" point of Cam as described in Fig. 30.
TIMING F : When assembling the Gear Cam Main ④ and the Mode Switch Ass'y ③.
TIMING G : When assembling the Mode Switch Ass'y ③ and the Gear Cam Tension ①.
TIMING H : When installing Lever Cam Tension ② to Gear Cam Tension ①, Timing "H" point of Cam as described in Fig. 30.

Note : 1) Gear Train is installed A, B, C, D and E in order.
2) If install points (Timing Points) of Gear Trains are mismatched, malfunction and part damage may occur. Special precaution is required to prevent it.

2. Important timing to assemble Sub-Deck

After finishing assembly of Gear Train, rotate Gear Cam Main ④ to align 3 holes of install point, as desciebed in Fig. A, in order to assemble Sub Deck.

Note : If loading Motor is installed, Gear Train will not be working. But Loading Motor can be moved by Power Supply giving 3V to Loading Motor.

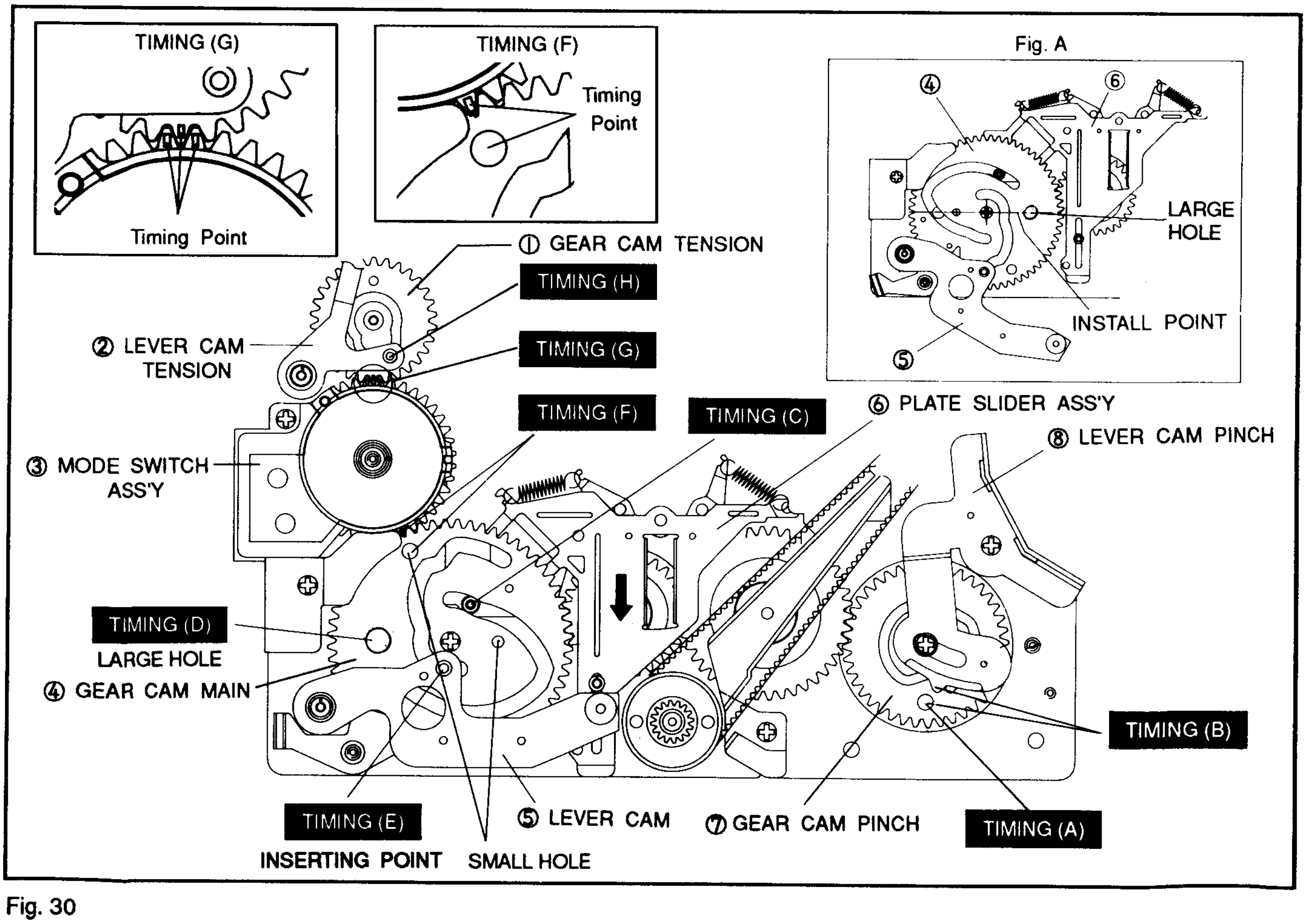

TIMING (G)
Timing Point
TIMING (F)
Timing Point
Fig. A
④
⑥
LARGE HOLE
INSTALL POINT
⑤
① GEAR CAM TENSION
TIMING (H)
② LEVER CAM TENSION
TIMING (G)
TIMING (F)
TIMING (C)
⑥ PLATE SLIDER ASS'Y
⑧ LEVER CAM PINCH
③ MODE SWITCH ASS'Y
TIMING (D)
LARGE HOLE
④ GEAR CAM MAIN
TIMING (B)
TIMING (E)
INSERTING POINT
SMALL HOLE
⑤ LEVER CAM
⑦ GEAR CAM PINCH
TIMING (A)

Fig. 30

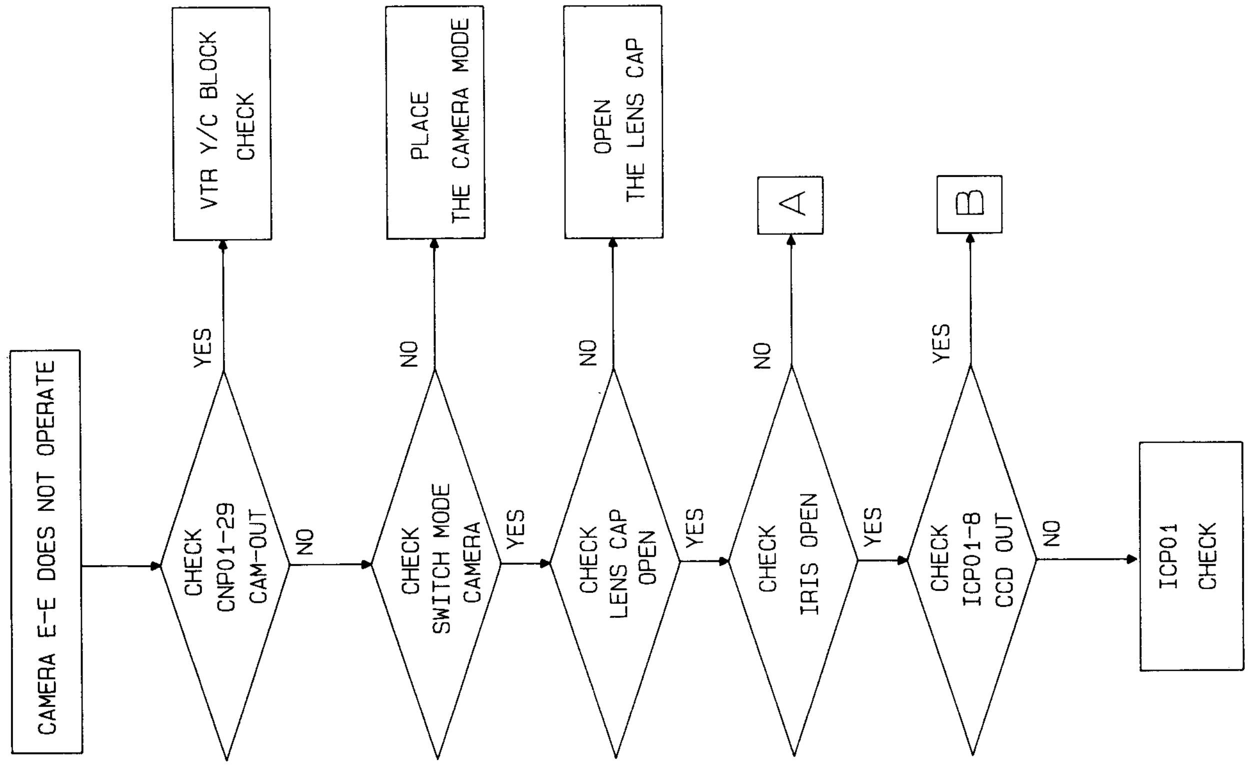
5. ABBREVIATIONS

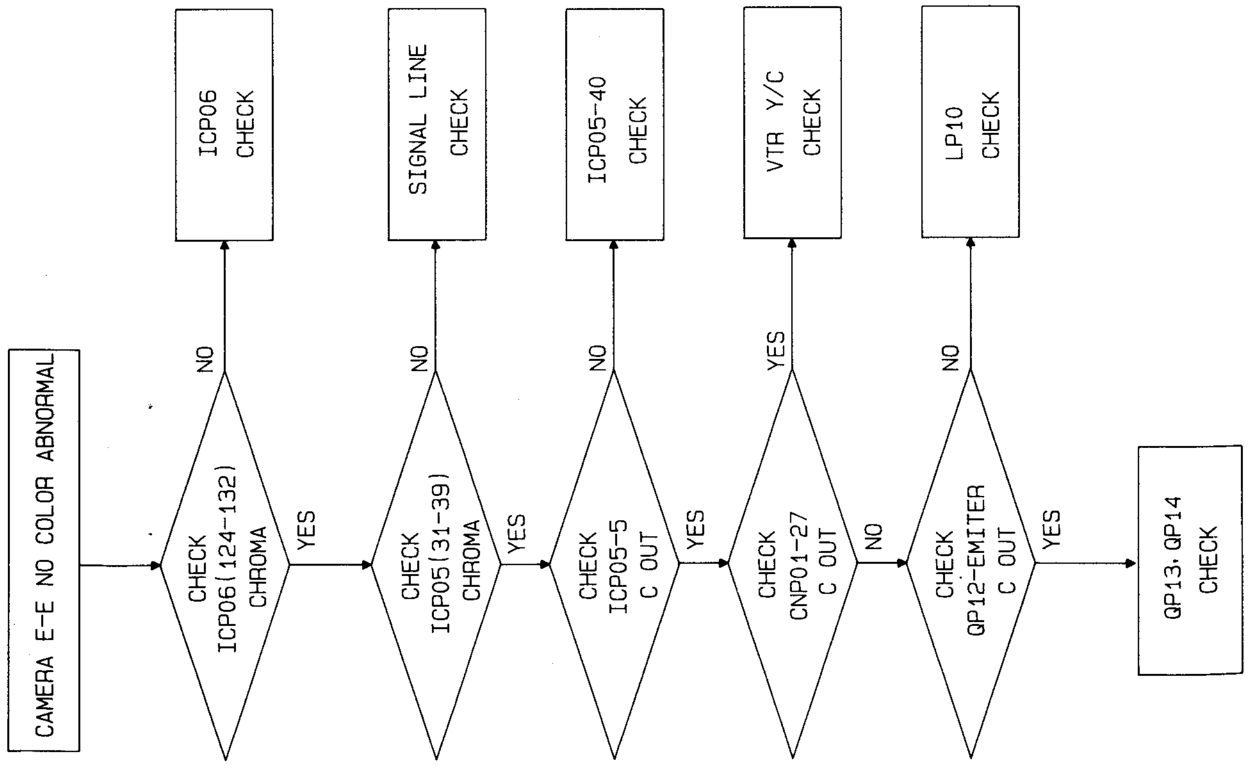
ABBREVIATION	EXPLANATION
ACC	Automatic Color Control
ACK	Automatic Color Killer
ADJ	Adjustment
A/D	Analog/Digital
AE	Auto Exposure
AF	Auto Focus
AFC	Automatic Frequency Control
AFM	Audio Frequency Modulation
AGC	Automatic Gain Control
AMP	Amplifier
APC	Automatic Pedestal Control
ASS'Y	Assembly
ATF	Automatic Track Finding
ATT	Attenuator
AUTO	Automatic
AUX	Auxiliary
BATT	Battery
BF	Burst Flag
BFG	Burst Flag Gate
BLC	Back Light Compensation
BLK	Black
BPF	Band Pass Filter
BUFF	Buffer
B/W	Black/White
CAM	Camera
CAMCORDER	Camera Recorder
CAP	Capstan
CAR	Carrier
CASS	Cassette
CBA	Circuit Board Assembly
CCD	Charge Coupled Device
CH	Channel
CHROMA or C	Chrominance
CLK	Clock
CLP	Clamp
CM	Capstan Motor
CN	Connector
CNR	Chroma Noise Reduction
COM	Common
COMB	Comb Filter
COMP	Composite
CRT	Cathode Ray Tube
CS	Chip Selector
CTL	Control
D/A	Digital/Analog
dB	Decibel (Measurement Unit)
DC	Direct Current
DD	Direct Drive
DEMOD	Demodulator
DET	Detect
DL	Delay Line
DOC	Drop Out Compensater
DY	Deflection Yoke
E-E	Electronic to Electronic
EMP	Emphasis
ENV	Envelope
EQ	Equalizer
EXT	External
EVF	Electronic View Finder
F/E	Flying Erase
FET	Field Effect Transistor
FF	Fast Forward, Flip-Flop
FG	Frequency Generator
FL	Filter
FM	Frequency Modulation
FPC	Flexible Pattern Circuit
FPS	Forward Picture Search
Freq.	Frequency
FSC	Frequency Sub Carrier
FWD	Forward
GC	Gain Control
GEN	Generator
GND	Ground
GRN	Green
GRY	Gray
HD	Head, Horizontal Drive
HG	Hall Generator
HPF	High Pass Filter
Hz	Hertz
IC	Integrated Circuit
IR	Infrared
INT	Interrupter
I/O	Input/Output
IRE	Institute of Radio Engineers
LCD	Liquid Crystal Display
LED	Light Emitting Diode
LM	Loading Motor
LP	Long Play
LPF	Low Pass Filter
MAX	Maximum
M/F	Manual Focus
MIC	Microphone
MIN	Minimum
MIX	Mixer

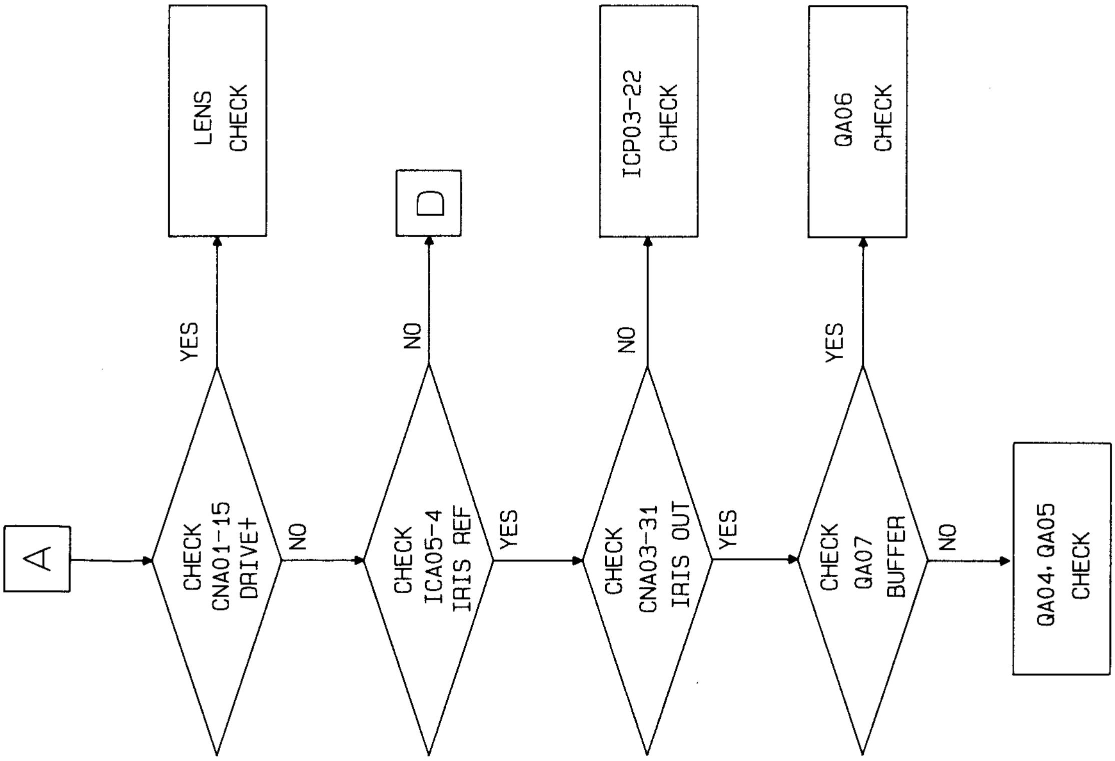
ABBREVIATION	EXPLANATION
MODED	Modulator-Demodulator
MTX	Matrix
NC	Not Connected
NR	Noise Reduction
NOR	Normal
OFD	Overflow Drain
OP AMP	Operational Amplifier
OSC	Oscillator
PB	Play Back
PCM	Pulse Coded Modulation
PG	Pulse Generator
PLA	Programmable Logic Array
PLL	Phase Locked Loop
P-P	Peak to Peak
PRE-AMP	Pre-Amplifier
P/S	Pause/Still
PWM	Pulse Width Modulation
PWR	Power
RAM	Random Access Memory
REC	Recording
REF	Reference
REG	Regulator
REV	Reverse
REW	Rewind
RF	Radio Frequency
RG	Reset Gate
ROM	Read Only Memory
RST	Reset
RPS	Reverse Picture Search
SCK	Serial Clock
SFG	Supply FG
SHD	Sample Hold Data
SHP	Sample Hold Precharge
SHP	Sharpness
SI	Serial Data Input
SO	Serial Data Output
SP	Standard Play
SN	Signal to Noise Ratio
STB	Strobe
S/W	Switch
SYNC	Synchronization
SYSCON	System Control
TP	Test Point
TR	Transistor
TRK	Tracking
UL	Unloading
UNREG	Unregulated
u-COM	Microprocessor
VCO	Voltage Control Oscillator
VCR	Video Cassette Recorder
VR	Variable Resistor
V-SYNC	Vertical-sync.
VXO	Variable Crystal Oscillator
W/B	White Blance
X-TAL	Crystal
Y/C	Luminance/Chrominance
3.58MHz	Color Sub Carrier

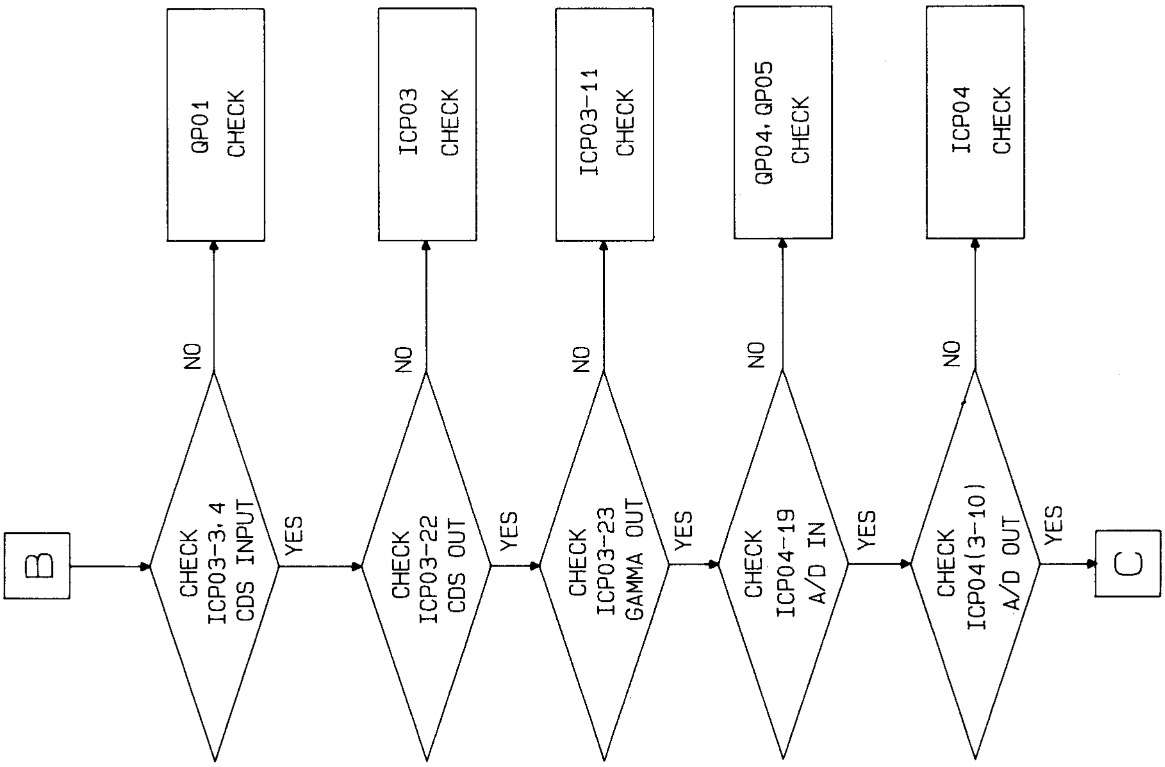
6. TROUBLESHOOTING

6-1. CAMERA SECTION


CAMERA E-E DOES NOT OPERATE
CHECK CNP01-29 CAM-OUT
YES
VTR Y/C BLOCK CHECK
NO
CHECK SWITCH MODE CAMERA
NO
PLACE THE CAMERA MODE
YES
CHECK LENS CAP OPEN
NO
OPEN THE LENS CAP
YES
CHECK IRIS OPEN
NO
A
YES
CHECK ICP01-8 CCD OUT
YES
B
NO
ICP01 CHECK


CAMERA E-E NO COLOR ABNORMAL
CHECK ICP06(124-132) CHROMA
NO
ICP06 CHECK
YES
CHECK ICP05(31-39) CHROMA
NO
SIGNAL LINE CHECK
YES
CHECK ICP05-5 C OUT
NO
ICP05-40 CHECK
YES
CHECK CNP01-27 C OUT
YES
VTR Y/C CHECK
NO
CHECK QP12-EMITER C OUT
NO
LP10 CHECK
YES
QP13, QP14 CHECK


A
CHECK CNA01-15 DRIVE+
YES
LENS CHECK
NO
CHECK ICA05-4 IRIS REF
NO
D
YES
CHECK CNA03-31 IRIS OUT
NO
ICP03-22 CHECK
YES
CHECK QA07 BUFFER
YES
QA06 CHECK
NO
QA04, QA05 CHECK


B
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NO
QP01 CHECK
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CHECK ICP03-22 CDS OUT
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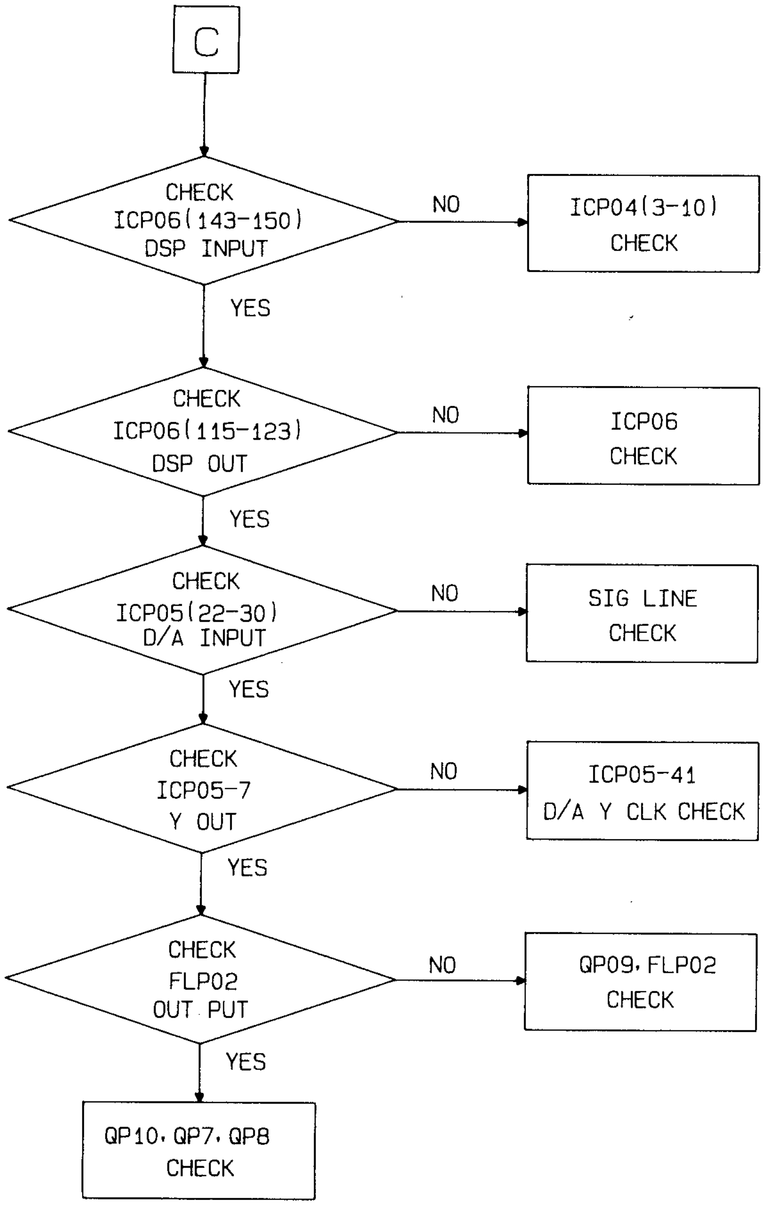
ICP03 CHECK
YES
CHECK ICP03-23 GAMMA OUT
NO
ICP03-11 CHECK
YES
CHECK ICP04-19 A/D IN
NO
QP04, QP05 CHECK
YES
CHECK ICP04(3-10) A/D OUT
NO
ICP04 CHECK
YES
C


C
CHECK ICP06(143-150) DSP INPUT
NO
ICP04(3-10) CHECK
YES
CHECK ICP06(115-123) DSP OUT
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ICP06 CHECK
YES
CHECK ICP05(22-30) D/A INPUT
NO
SIG LINE CHECK
YES
CHECK ICP05-7 Y OUT
NO
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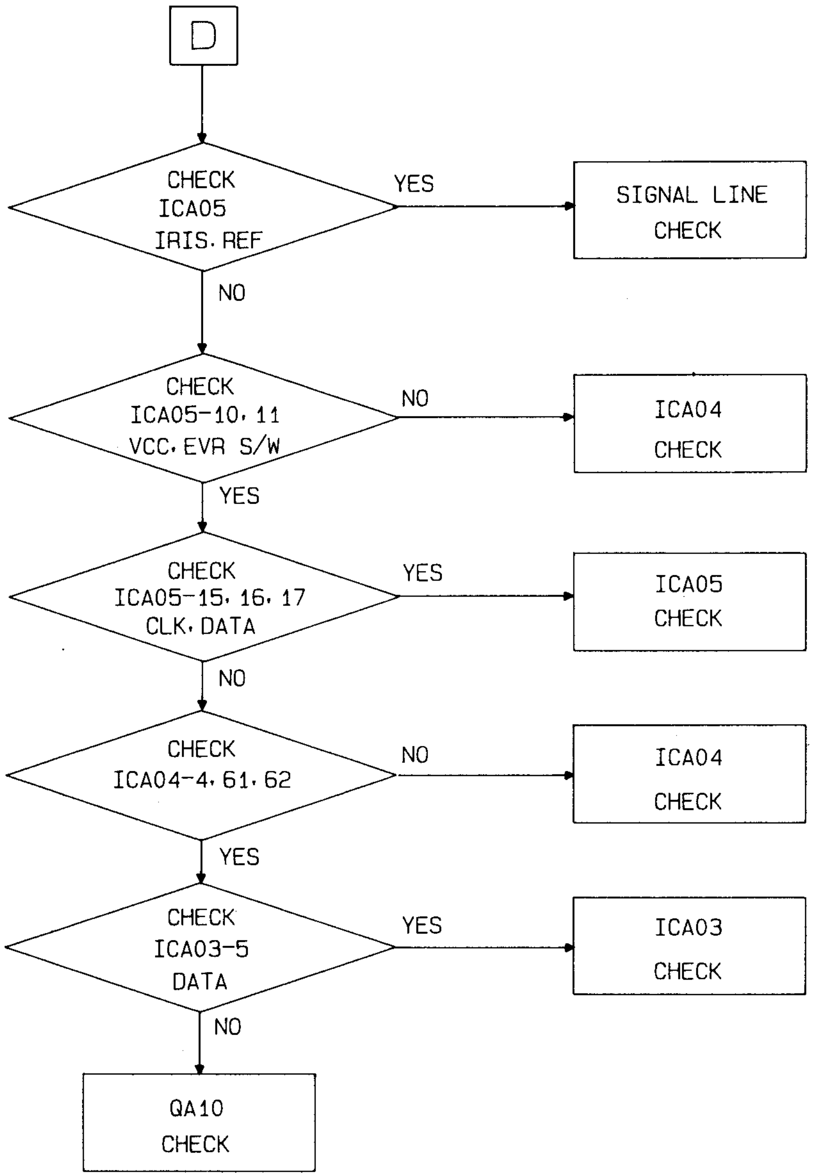
YES
CHECK FLP02 OUT PUT
NO
QP09, FLP02 CHECK
YES
QP10, QP7, QP8 CHECK


D
CHECK ICA05 IRIS. REF
YES
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NO
CHECK ICA05-10, 11 VCC, EVR S/W
NO
ICA04 CHECK
YES
CHECK ICA05-15, 16, 17 CLK, DATA
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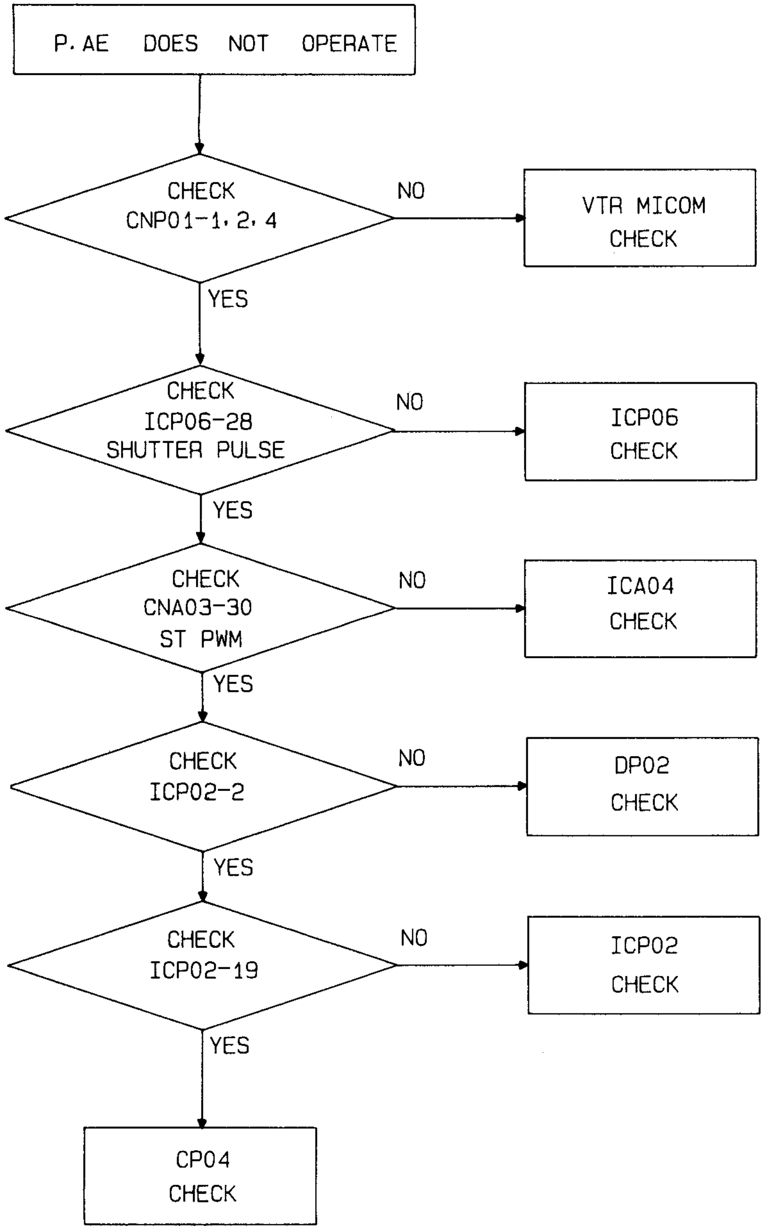
ICA05 CHECK
NO
CHECK ICA04-4, 61, 62
NO
ICA04 CHECK
YES
CHECK ICA03-5 DATA
YES
ICA03 CHECK
NO
QA10 CHECK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CHECK CNP01-1, 2, 4
NO
VTR MICOM CHECK
YES
CHECK ICP06-28 SHUTTER PULSE
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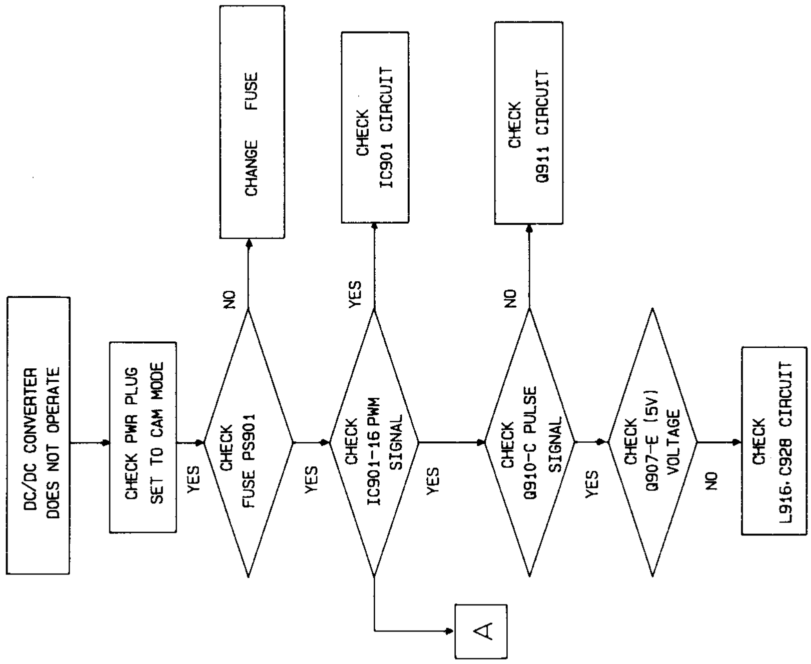
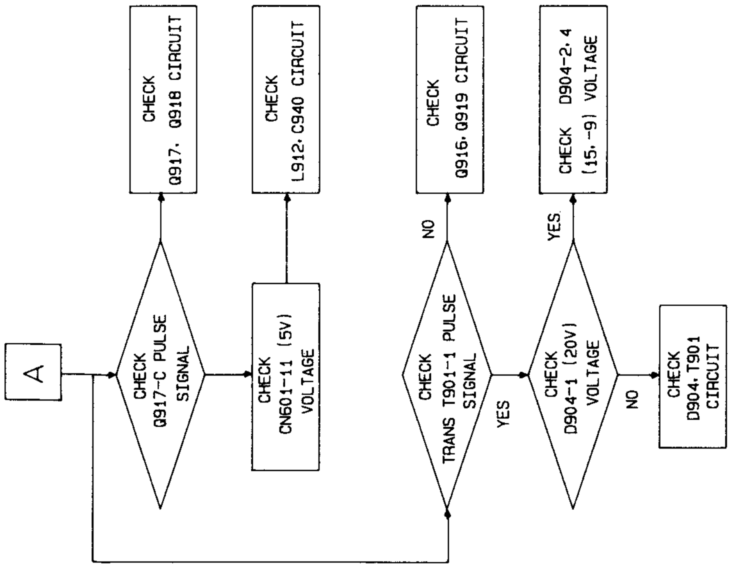
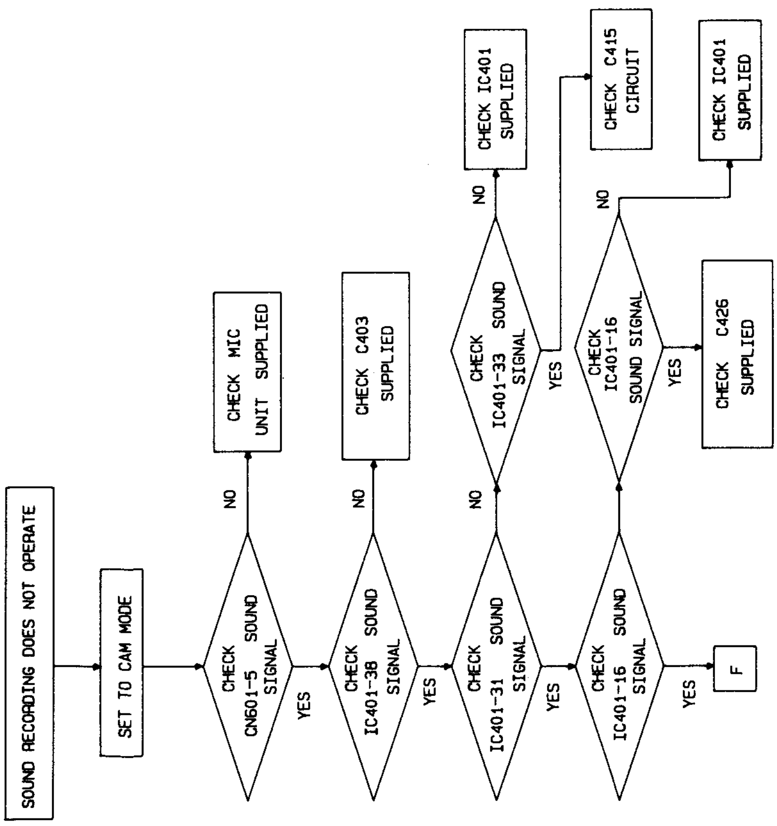
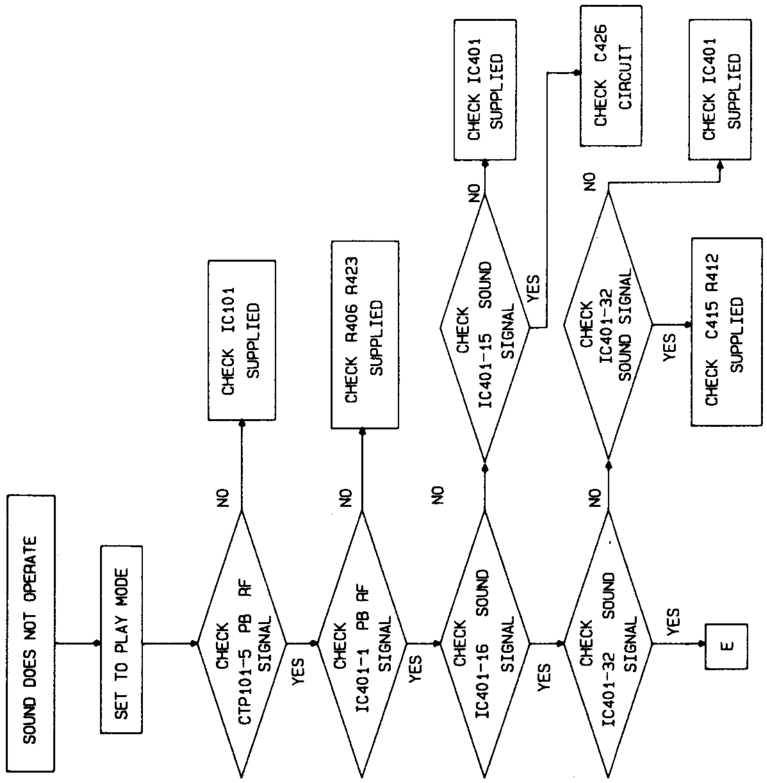
ICP06 CHECK
YES
CHECK CNA03-30 ST PWM
NO
ICA04 CHECK
YES
CHECK ICP02-2
NO
DP02 CHECK
YES
CHECK ICP02-19
NO
ICP02 CHECK
YES
CP04 CHECK

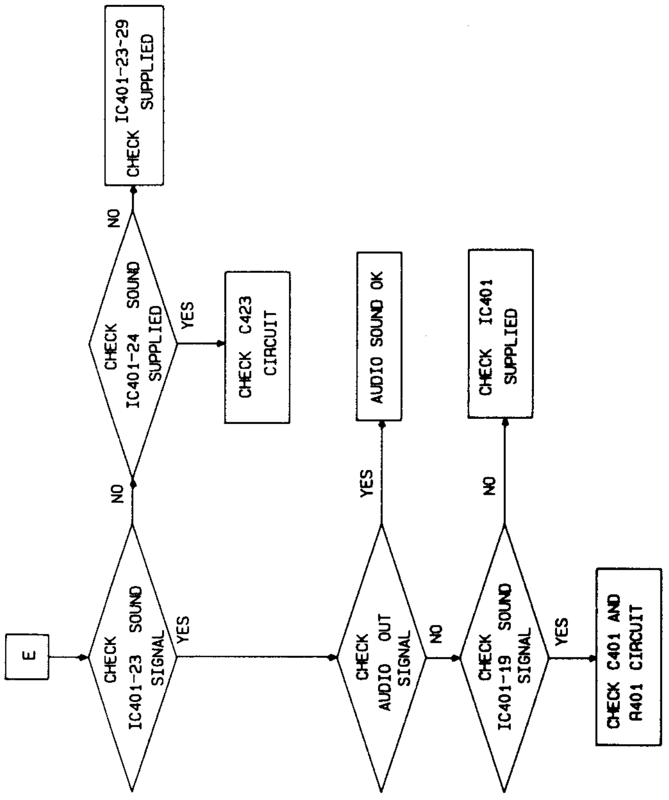
6-2. VCR SECTION

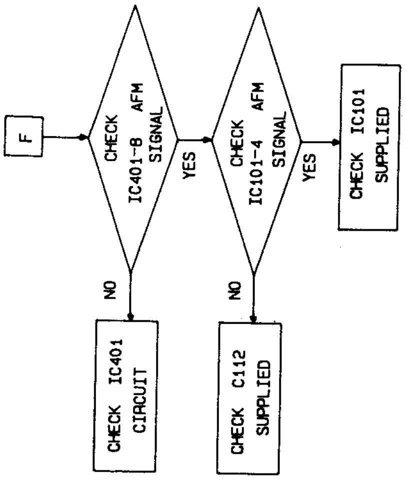

DC/DC CONVERTER DOES NOT OPERATE
CHECK PWR PLUG SET TO CAM MODE
YES
CHECK FUSE PS901
NO
CHANGE FUSE
YES
CHECK IC901-16 PWM SIGNAL
YES
CHECK IC901 CIRCUIT
A
YES
CHECK Q910-C PULSE SIGNAL
NO
CHECK Q911 CIRCUIT
YES
CHECK Q907-E (5V) VOLTAGE
NO
CHECK L916, C928 CIRCUIT

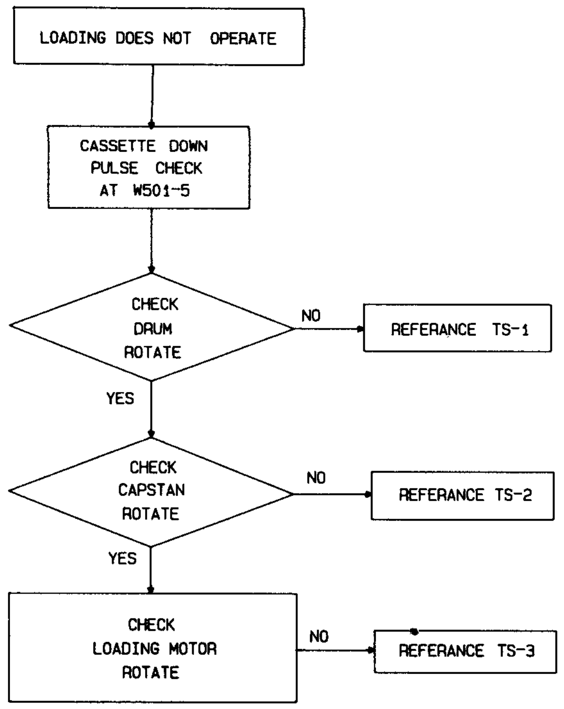

A
CHECK Q917-C PULSE SIGNAL
CHECK Q917, Q918 CIRCUIT
CHECK CN601-11 (5V) VOLTAGE
CHECK L912, C940 CIRCUIT
CHECK TRANS T901-1 PULSE SIGNAL
NO
CHECK Q916, Q919 CIRCUIT
YES
CHECK D904-1 (20V) VOLTAGE
YES
CHECK D904-2, 4 (15, -9) VOLTAGE
NO
CHECK D904, T901 CIRCUIT

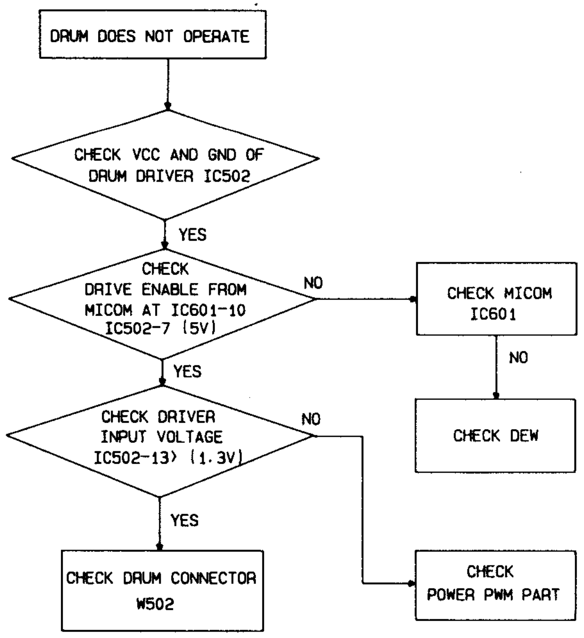

SOUND RECORDING DOES NOT OPERATE
SET TO CAM MODE
CHECK CN601-5 SOUND SIGNAL
NO
CHECK MIC UNIT SUPPLIED
YES
CHECK IC401-38 SOUND SIGNAL
NO
CHECK C403 SUPPLIED
YES
CHECK IC401-31 SOUND SIGNAL
NO
CHECK IC401-33 SOUND SIGNAL
NO
CHECK IC401 SUPPLIED
YES
CHECK C415 CIRCUIT
YES
CHECK IC401-16 SOUND SIGNAL
NO
CHECK IC401-16 SOUND SIGNAL
NO
CHECK IC401 SUPPLIED
YES
CHECK C426 SUPPLIED
YES
F

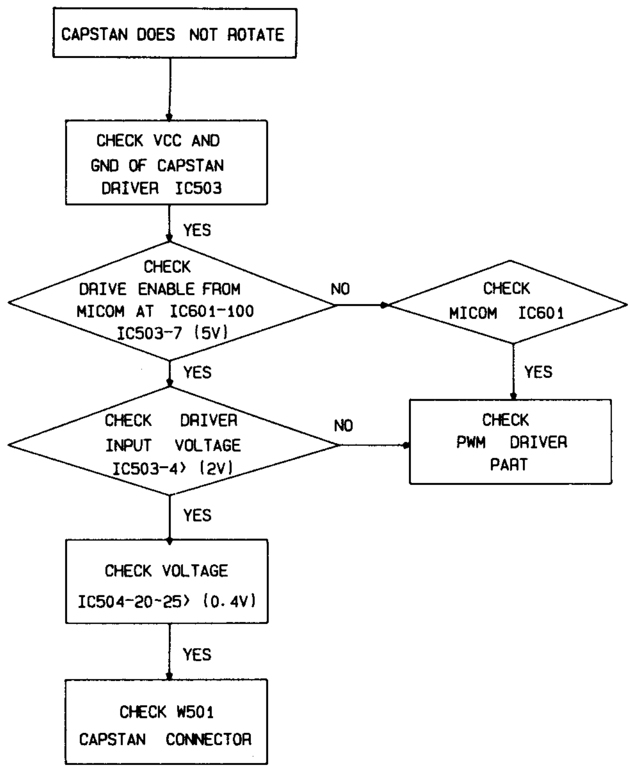

SOUND DOES NOT OPERATE
SET TO PLAY MODE
CHECK CTP101-5 PB RF SIGNAL
NO
CHECK IC101 SUPPLIED
YES
CHECK IC401-1 PB RF SIGNAL
NO
CHECK R406 R423 SUPPLIED
YES
CHECK IC401-16 SOUND SIGNAL
NO
CHECK IC401-15 SOUND SIGNAL
NO
CHECK IC401 SUPPLIED
YES
CHECK C426 CIRCUIT
YES
CHECK IC401-32 SOUND SIGNAL
NO
CHECK IC401-32 SOUND SIGNAL
NO
CHECK IC401 SUPPLIED
YES
CHECK C415 R412 SUPPLIED
YES
E

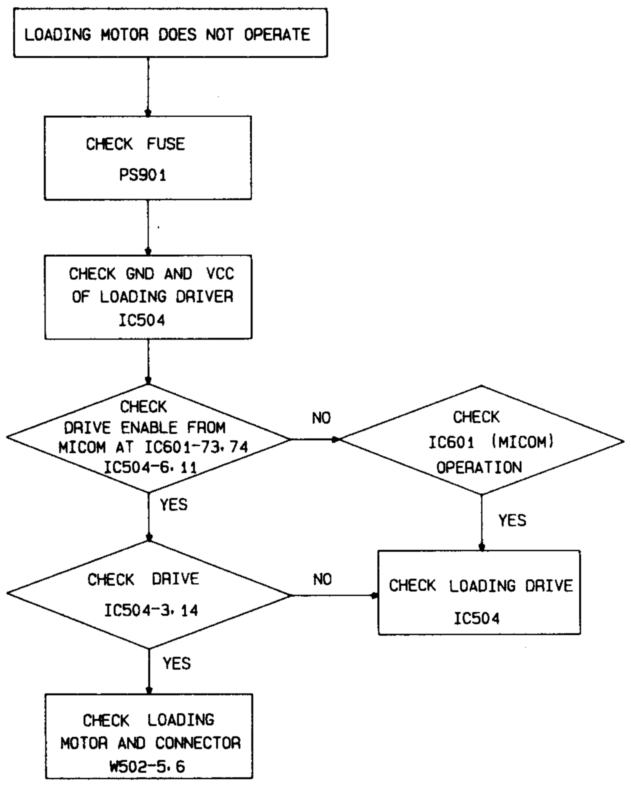

E
CHECK IC401-23 SOUND SIGNAL
NO
CHECK IC401-24 SOUND SUPPLIED
NO
CHECK IC401-23-29 SUPPLIED
YES
CHECK C423 CIRCUIT
YES
CHECK AUDIO OUT SIGNAL
YES
AUDIO SOUND OK
NO
CHECK IC401-19 SOUND SIGNAL
NO
CHECK IC401 SUPPLIED
YES
CHECK C401 AND R401 CIRCUIT

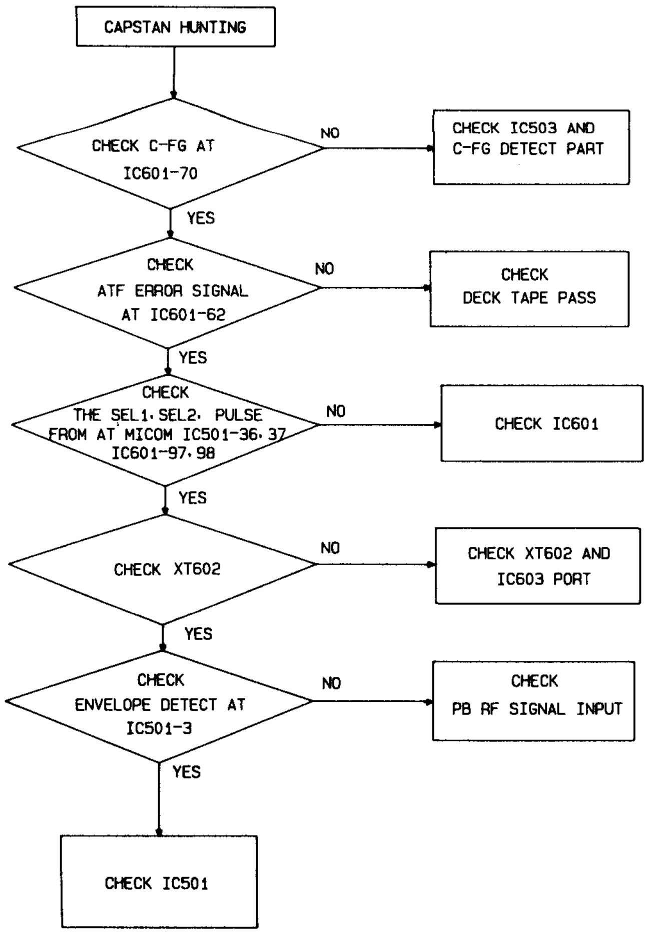

F
CHECK IC401-8 AFM SIGNAL
NO
CHECK IC401 CIRCUIT
YES
CHECK IC101-4 AFM SIGNAL
NO
CHECK C112 SUPPLIED
YES
CHECK IC101 SUPPLIED

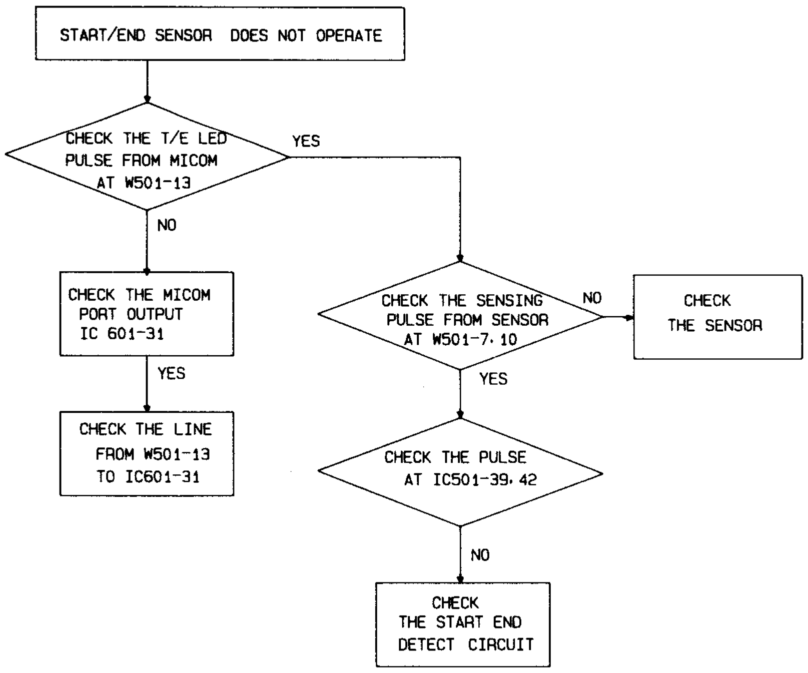

LOADING DOES NOT OPERATE
CASSETTE DOWN PULSE CHECK AT W501-5
CHECK DRUM ROTATE
NO
REFERANCE TS-1
YES
CHECK CAPSTAN ROTATE
NO
REFERANCE TS-2
YES
CHECK LOADING MOTOR ROTATE
NO
REFERANCE TS-3

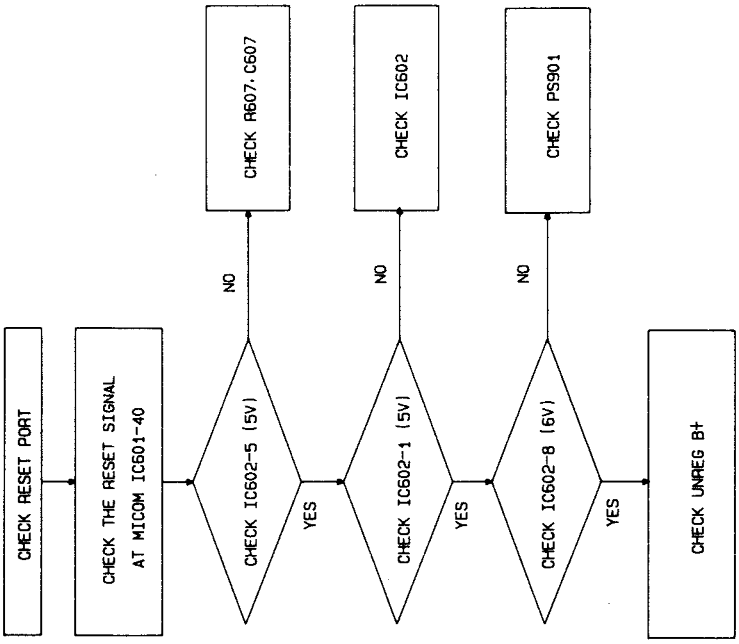

DRUM DOES NOT OPERATE
CHECK VCC AND GND OF DRUM DRIVER IC502
YES
CHECK DRIVE ENABLE FROM MICOM AT IC601-10 IC502-7 (5V)
NO
CHECK MICOM IC601
NO
CHECK DEW
YES
CHECK DRIVER INPUT VOLTAGE IC502-13> (1.3V)
NO
CHECK POWER PWM PART
YES
CHECK DRUM CONNECTOR W502

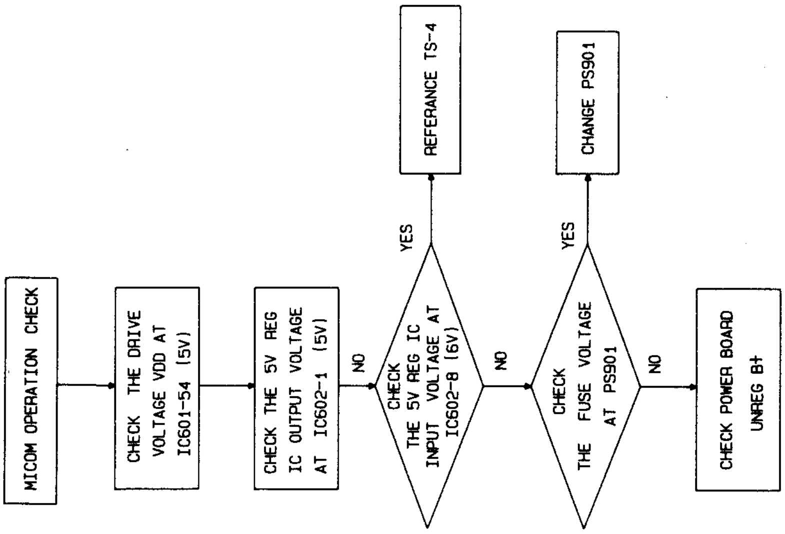

CAPSTAN DOES NOT ROTATE
CHECK VCC AND GND OF CAPSTAN DRIVER IC503
YES
CHECK DRIVE ENABLE FROM MICOM AT IC601-100 IC503-7 (5V)
NO
CHECK MICOM IC601
YES
YES
CHECK DRIVER INPUT VOLTAGE IC503-4> (2V)
NO
CHECK PWM DRIVER PART
YES
CHECK VOLTAGE IC504-20~25> (0.4V)
YES
CHECK W501 CAPSTAN CONNECTOR

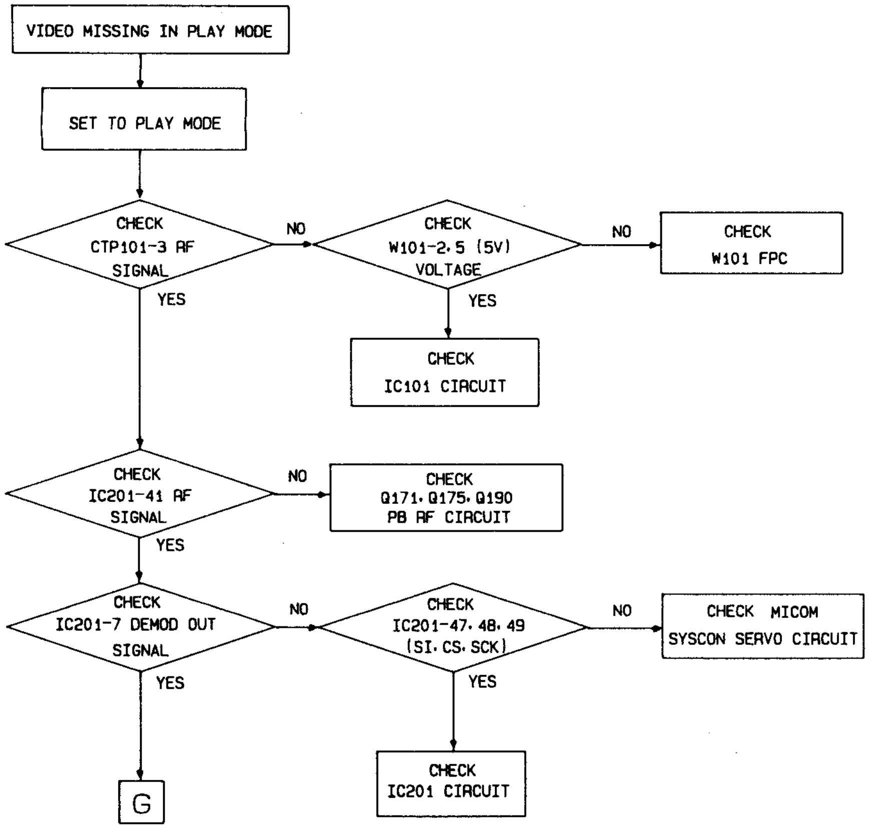

LOADING MOTOR DOES NOT OPERATE
CHECK FUSE PS901
CHECK GND AND VCC OF LOADING DRIVER IC504
CHECK DRIVE ENABLE FROM MICOM AT IC601-73, 74 IC504-6, 11
NO
CHECK IC601 (MICOM) OPERATION
YES
YES
CHECK DRIVE IC504-3, 14
NO
CHECK LOADING DRIVE IC504
YES
CHECK LOADING MOTOR AND CONNECTOR W502-5, 6

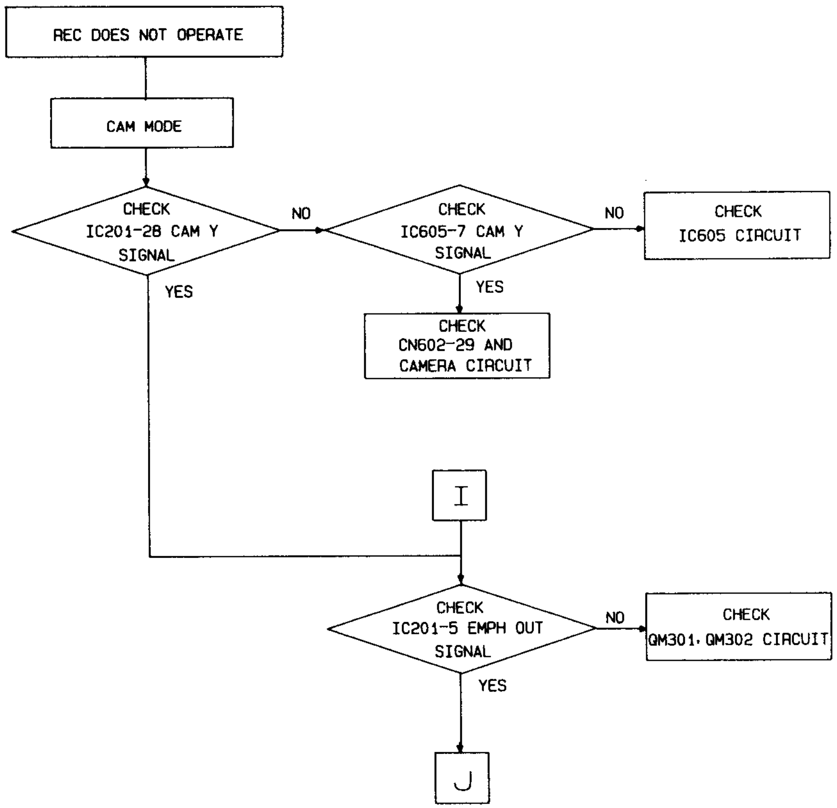

CAPSTAN HUNTING
CHECK C-FG AT IC601-70
NO
CHECK IC503 AND C-FG DETECT PART
YES
CHECK ATF ERROR SIGNAL AT IC601-62
NO
CHECK DECK TAPE PASS
YES
CHECK THE SEL1·SEL2· PULSE FROM AT MICOM IC501-36·37 IC601-97·98
NO
CHECK IC601
YES
CHECK XT602
NO
CHECK XT602 AND IC603 PORT
YES
CHECK ENVELOPE DETECT AT IC501-3
NO
CHECK PB RF SIGNAL INPUT
YES
CHECK IC501

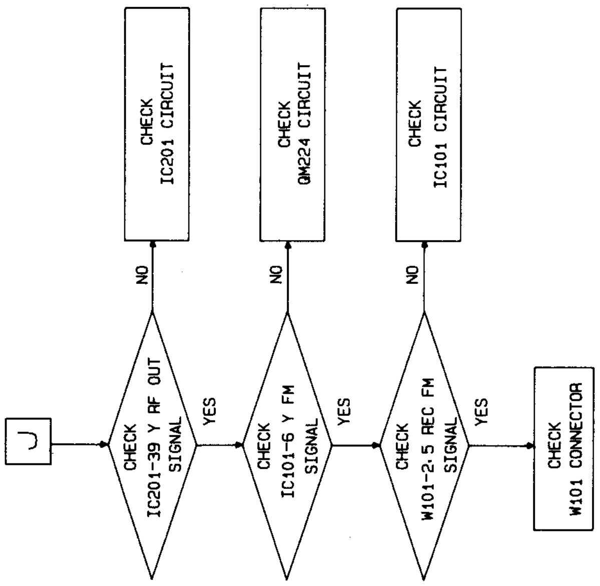

START/END SENSOR DOES NOT OPERATE
CHECK THE T/E LED PULSE FROM MICOM AT W501-13
YES
NO
CHECK THE MICOM PORT OUTPUT IC 601-31
YES
CHECK THE LINE FROM W501-13 TO IC601-31
CHECK THE SENSING PULSE FROM SENSOR AT W501-7·10
NO
CHECK THE SENSOR
YES
CHECK THE PULSE AT IC501-39·42
NO
CHECK THE START END DETECT CIRCUIT

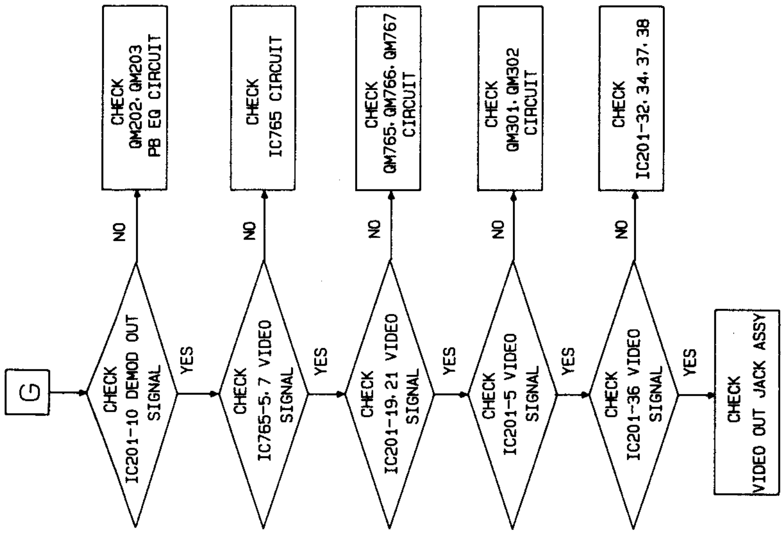

CHECK RESET PORT
CHECK THE RESET SIGNAL AT MICOM IC601-40
CHECK IC602-5 (5V)
NO
CHECK R607.C607
YES
CHECK IC602-1 (5V)
NO
CHECK IC602
YES
CHECK IC602-8 (6V)
NO
CHECK PS901
YES
CHECK UNREG B+

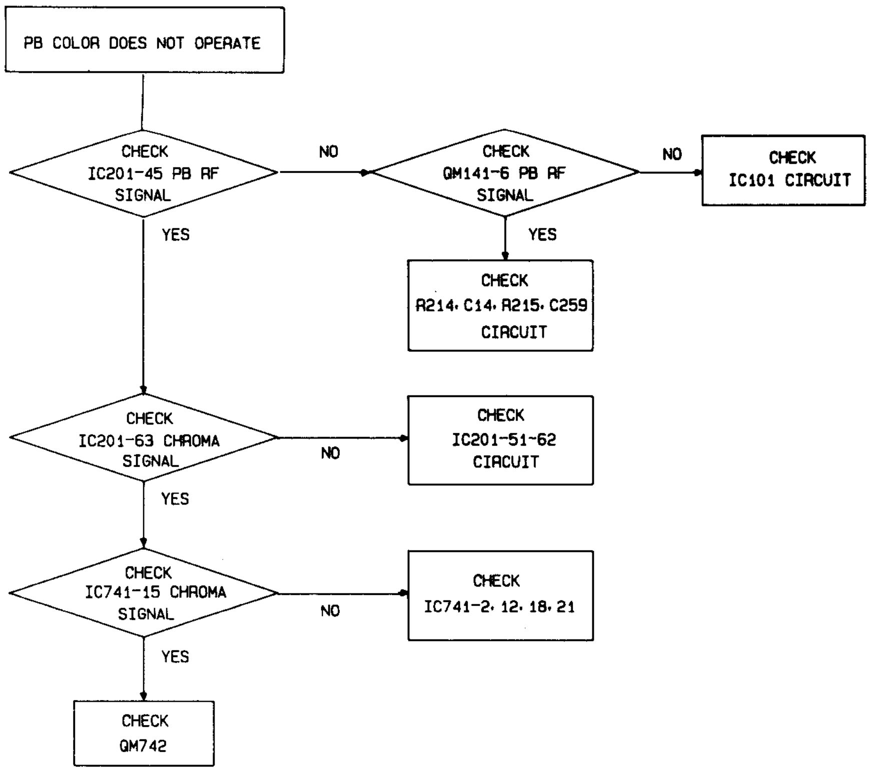

MICOM OPERATION CHECK
CHECK THE DRIVE VOLTAGE VDD AT IC601-54 (5V)
CHECK THE 5V REG IC OUTPUT VOLTAGE AT IC602-1 (5V)
NO
CHECK THE 5V REG IC INPUT VOLTAGE AT IC602-8 (6V)
YES
REFERANCE TS-4
NO
CHECK THE FUSE VOLTAGE AT PS901
YES
CHANGE PS901
NO
CHECK POWER BOARD UNREG B+


VIDEO MISSING IN PLAY MODE
SET TO PLAY MODE
CHECK CTP101-3 RF SIGNAL
NO
YES
CHECK W101-2.5 (5V) VOLTAGE
NO
YES
CHECK W101 FPC
CHECK IC101 CIRCUIT
CHECK IC201-41 RF SIGNAL
NO
YES
CHECK Q171. Q175. Q190 PB RF CIRCUIT
CHECK IC201-7 DEMOD OUT SIGNAL
NO
YES
CHECK IC201-47. 48. 49 (SI. CS. SCK)
NO
YES
CHECK MICOM SYSCON SERVO CIRCUIT
CHECK IC201 CIRCUIT
G


REC DOES NOT OPERATE
CAM MODE
CHECK IC201-28 CAM Y SIGNAL
NO
YES
CHECK IC605-7 CAM Y SIGNAL
NO
YES
CHECK IC605 CIRCUIT
CHECK CN602-29 AND CAMERA CIRCUIT
I
CHECK IC201-5 EMPH OUT SIGNAL
NO
YES
CHECK QM301. QM302 CIRCUIT
J


J
CHECK IC201-39 Y RF OUT SIGNAL
YES
NO
CHECK IC201 CIRCUIT
CHECK IC101-6 Y FM SIGNAL
YES
NO
CHECK QM224 CIRCUIT
CHECK W101-2, 5 REC FM SIGNAL
YES
NO
CHECK IC101 CIRCUIT
CHECK W101 CONNECTOR


G
CHECK IC201-10 DEMOD OUT SIGNAL
YES
NO
CHECK QM202, QM203 PB EQ CIRCUIT
CHECK IC765-5, 7 VIDEO SIGNAL
YES
NO
CHECK IC765 CIRCUIT
CHECK IC201-19, 21 VIDEO SIGNAL
YES
NO
CHECK QM765, QM766, QM767 CIRCUIT
CHECK IC201-5 VIDEO SIGNAL
YES
NO
CHECK QM301, QM302 CIRCUIT
CHECK IC201-36 VIDEO SIGNAL
YES
NO
CHECK IC201-32, 34, 37, 38
CHECK VIDEO OUT JACK ASSY


PB COLOR DOES NOT OPERATE
CHECK IC201-45 PB RF SIGNAL
NO
CHECK QM141-6 PB RF SIGNAL
NO
CHECK IC101 CIRCUIT
YES
CHECK R214, C14, R215, C259 CIRCUIT
YES
CHECK IC201-63 CHROMA SIGNAL
NO
CHECK IC201-51-62 CIRCUIT
YES
CHECK IC741-15 CHROMA SIGNAL
NO
CHECK IC741-2, 12, 18, 21
YES
CHECK QM742

7. CHIP REPLACEMENT

7-1. PRECAUTION FOR THE CHIP REPLACEMENT

1. Do not touch the part body directly with the soldering iron.
   ICs, especially TSOP, are easily damaged by heat.
2. Use care regarding soldering iron tip and avoid rapidly heating parts. Some parts can be damaged by sudden heating. Preheat the part at about 100℃ for several minutes before installing it.
3. Use soldering tip temperature of about 240℃ or larger parts, use a slightly higher temperature (about 280℃).
4. The thin (0.3mm) solder for miniature patrs does no contain adequate flux. Supplementary flux is thus needed in most cases.

☞ **A/V systems are manufactured using flux which can be cleaned by water in the factory. When you replace the part or troubleshooting, use proper flux and solder which can be cleaned by water. Soldering area will corrode, if proper flux and solder are not used in replace. And it may cause a fatal error to the system.**

5. Use care not to damage the circuit pattern, especially when removing.
6. Because of the many pins, cleanliness of the pattern is extremely important after removing the IC.
7. Use care to avoid solder bridges. Remove any that occurs.
8. Position the part carefully. This will also affect the soldering operation. Be very precise in positioning the IC. Soldering opposite pins first holds the IC in place and makes soldering the other pins easier.
9. Do not reuse removed parts.
10. Check for solder joints, especially miniature parts with small lead.
11. A defective trimming resistor cannot be adjusted externally Replace with an ordinary variable resistor.
12. It is important to inspect the work with a magnifier. Check after installing (cold solder joints, etc).

7-2. TOOLS FOR THE CHIP REPLACEMENT

The tools for the chip replacement are as follows.

1. Thin tip type soldering iron
2. Small flat-blade tip type soldering iron
3. Special desoldering tip iron
4. Airblower unit
5. Flat Package Pick-up
6. Flux can be cleaned by water
7. 0.3mm thin solder can be cleaned by water
8. Desoldering wire
9. Tweezers

7-3. CHIP RESISTORS AND CHIP CAPACITORS

7-3-1. Type of Parts

The type of chip resistors and chip capacitors are as follows.

1. Thick Film Chip Resistors
2. Carbon Film Chip Resistors
3. Metal Film Chip Resistors
4. Chip Ceramic Capacitors
5. Chip Trimming Resistors

7-3-2. Removing the Part

Using two soldering irons ;

1. Use thin tip soldering irons.
2. Use soldering tip temperature of about 280℃.
3. Simultaneously heat both ends of the part.
4. While heating, grasp the part with the tips of the soldering irons and remove it.
5. Use desoldering wire to completely remove the old solder from the part location of the board.
6. A clean pattern for installing the new part is very important.

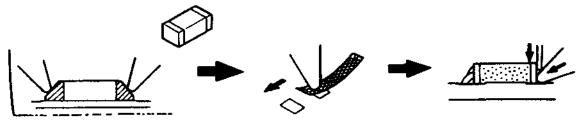


Fig. 1

7-3-3. Installing the Part

1. Clean the area where the new part is to be mounted.
2. Apply flux.
3. Set part correctly into position, prevent it from shifting.
4. Bring the soldering iron tip close to the part contact without actually touching it. Melt thin (0.3mm) solder between the tip and part so that it flows into the part contact.
5. Check work quality with a magnifier.

7-4. CHIP TANTALUM CAPACITORS AND CHIP FILTERS

7-4-1. Type of Parts

The type of chip tantalum capacitors and chip filters are as follows.

1. Chip Inductors
2. Chip Tantalum Capacitors
3. Chip Tantalum Electrolytic Capacitors
4. Chip Aluminum Electrolytic Capacitors
5. Chip Transformers
6. Chip Filters

7-4-2. Removing the Part

1. Using special desoldering iron ;

1) Select soldering tip according to part size.
2) When the solder melts, remove the part
3) Bring the tip into contact with the soldered points.
4) Remove the old solder with desoldering wire.

2. Using two soldering irons ;

1) Use small flat-blade tips.
2) Heat both ends of the part simultaneously.
3) When the solder melts, grasp and remove the part with the soldering iron tips.
4) Remove the old solder with desoldering wire.

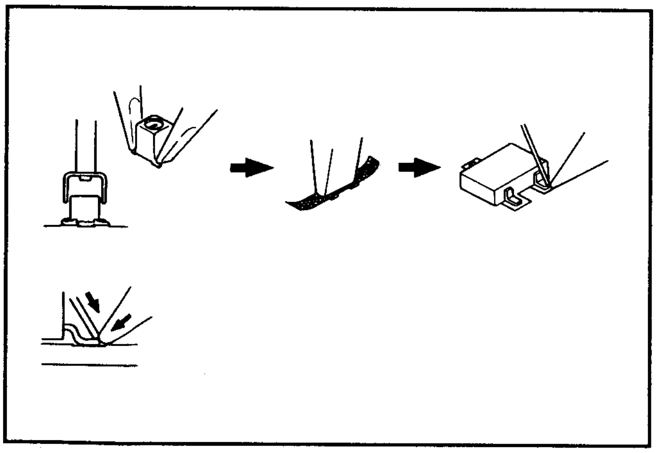


Fig. 2

7-4-3. Installing the Part

1. Clean the area where the new part is to be mounted.
2. Apply flux.
3. Set part correctly into position, prevent it from shifting.
4. Use sharp soldering iron tip. Bring close to the part contact without actually touching it. Melt thin solder between the tip and part so that it flows into the part contact.
5. Check work quality with a magnifier.

7-5. CHIP VRs, CHIP TRIMMER CAPACITORS, DIODES AND TR.

7-5-1. Type of Parts

The type of the part is as follows.

1) Chip VRs
2) Chip Trimmer Capacitors
3) Diode
4) Transistors

7-5-2. Removing the Part

Using two soldering irons ;

1. Use small flat-blade tips.
2. Heat the leads of the part simultaneously.
3. When the solder melts, grasp and remove the part with the soldering iron tips.
4. Remove the old solder with desoldering wire.

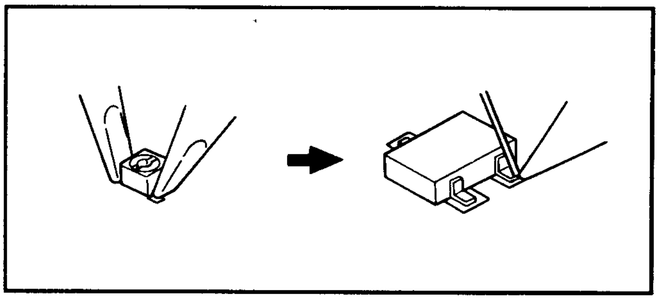


Fig. 3

7-5-3. Installing the Part

1. Clean the area where the new part is to be mounted.
2. Apply flux.
3. Set part correctly into position, prevent it from shifting.
4. Use sharp soldering iron tip. Bring close to the part contact without actually touching it. Melt thin solder between the tip and part so that it flows into the part contact.

7-6. CHIP ICs

7-6-1. Type of Chip ICs

The type of the Chip ICs are as follows ;

1. SOP(Small Outline Package) IC
2. SSOP(Shrink Small Outline Package) IC
3. VSOP(Very Small Outline Package) IC
4. QFP(Quad Flat Package) IC
5. VQFP(Very Quad Flat Package) IC
6. PLCC(Plastic Leaded Chip Carrier) IC
7. TSOP(Thin Small Outline Package) IC

7-6-2. Removing the Part

1. Using special desoldering iron ;

1)Select the tip accoding to the size and shape of the IC.
2) "Tin"the tip with a small amount of the IC leads.
3) Set the tip squarely over the IC leads.
4) When the solder melts, carefully twist the iron.
5) Raise and remove the IC.

2. Using shaped airblower unit ;

1) Select the correct nozzle.
2) Select the temperature and airblow.
   (suggested : tem perature : 7, airblow : 4)
3) Engage the IC removing tool
4) Use the airblow to preheat the IC for about 5 seconds,
   then heat with the nozzle until the IC remover lifts the
   part from the board.

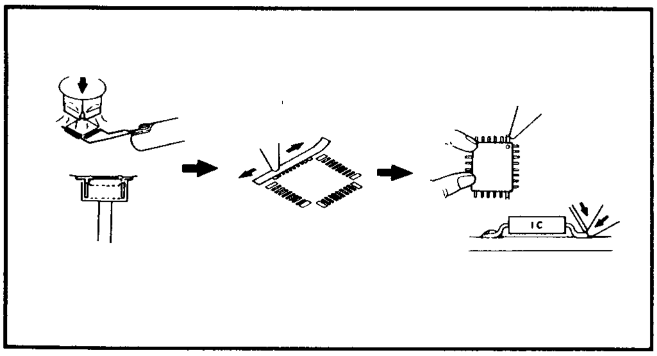


Fig. 4

7-6-3. Installing the Part

1. Use desoldering wire to remove the previous solder.
2. Clean the location.
3. Apply flux.
4. Position the IC and solder two pins at opposite sides.
5. Use a sharp tipped soldering iron and carefully solder each pin. (After gaining experience, a thicker tip can be used for better work efficiency).
6. Remove any solder bridges with desoldering wire.
7. Inspect the work with a magnifier.

7-7. HOW TO READ LEADLESS (CHIP) COMPONENT VALUE

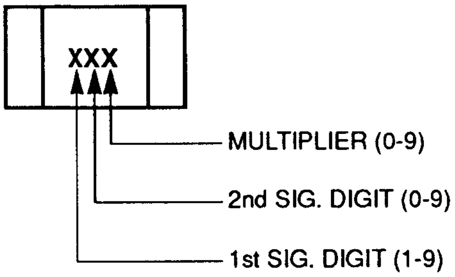
7-7-1. Check the followings before S.M.D Troubleshooting

- Cracked or Chipped Component Body
- Cracked or Separated Solder Joints
- Peeling end Terminations or Fractured Leads
- Rejection of Solder from Copper Pads or Component
- Foreign Matter on Copper Pads
- Solder Bridges

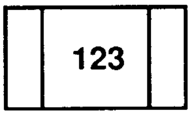
7-7-2. S.M.D (Surface Mounted Devices) Identification

1. Chip Resistor Identification

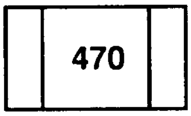
1) Standard Chip Resistor Code


XXX
MULTIPLIER (0-9)
2nd SIG. DIGIT (0-9)
1st SIG. DIGIT (1-9)

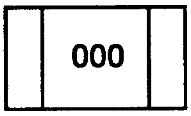
Examples



= 12 x 103 (1000) = 12000 Ω
= 12K Ω



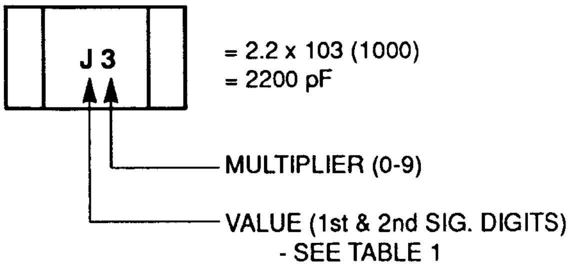
= 47 x 100 (1) = 47 Ω



= CHIP JUMPER = 0 Ω

2. Chip Capacitor Indentification

1) Standard Two Place Code


J 3
MULTIPLIER (0-9)
VALUE (1st & 2nd SIG. DIGITS)
- SEE TABLE 1

= 2.2 x 103 (1000)
= 2200 pF

Examples

S2 = 4.7 x 100 = 470 pF

b0 = 3.5 x 1.0 = 3.5 pF

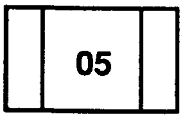
Note : Ceramic chip capacitor is no marking.

VALUE (33 VALUE SYMBOLS) - UPPER AND LOWER CASE LETTERS					MULTIPLIER
A — 1.0	H — 2.0	b — 3.5	f — 5.0	X — 7.5	0 = x 1.0
B — 1.1	J — 2.2	p — 3.6	T — 5.1	t — 8.0	1 = x 10
C — 1.2	K — 2.4	Q — 3.9	U — 5.6	Y — 8.2	2 = x 100
D — 1.3	a — 2.5	d — 4.0	m — 6.0	y — 9.0	3 = x 1000
E — 1.5	L — 2.7	R — 4.3	V — 6.2	Z — 9.1	4 = x 10000
F — 1.6	M — 3.0	e — 4.5	W — 6.8		5 = x 100000 etc.
G — 1.8	N — 3.3	S — 4.7	n — 7.0		

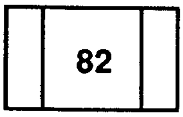
--- TABLE 1 ---

2) Alternate Two Place Code

- Values below 100 pF - Value Read Directly

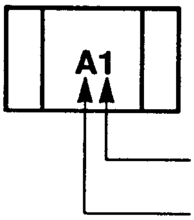


= 5 pF



= 82 pF

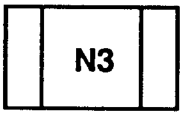
- Values 100 pF and above - Letter / Number Code



= 10 x 10
= 100 pF

MULTIPLIER (1-9)

VALUE (1st & 2nd SIG. DIGITS)
- SEE TABLE 2

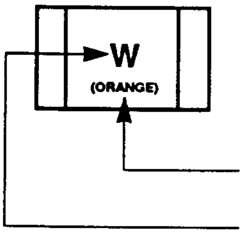


= 33 x 1000
= 33000 pF
= 0.33 uF

VALUE (24 VALUE SYMBOLS) - UPPER CASE LETTERS ONLY					MULTIPLIER
A — 10	F — 16	L — 27	R — 43	W — 68	1 = x 10
B — 11	G — 18	M — 30	S — 47	X — 75	2 = x 100
C — 12	H — 20	N — 33	T — 51	Y — 82	3 = x 1000
D — 13	J — 22	P — 36	U — 56	Z — 91	4 = x 10000
E — 15	K — 24	Q — 39	V — 62		5 = x 100000 etc.

--- TABLE 2 ---

3) Standard Single Place Code



= 4.7 x 1.0=4.7 pF

COLOR-MULTIPLIER

SYMBOL-VALUE
- SEE TABLE 3

Examples

R (Green) = 3.3 x 100 = 330 pF

7 (Blue) = 8.2 x 1000 = 8200 pF

VALUE (24 VALUE SYMBOLS) - UPPER CASE LETTERS & NUMERALS					MULTIPLIER
A — 1.0	H — 1.6	N — 2.7	V — 4.3	3 — 6.8	ORANGE = x 1.0
B — 1.1	I — 1.8	O — 3.0	W — 4.7	4 — 7.5	BLACK = x 10
C — 1.2	J — 2.0	R — 3.3	X — 5.1	7 — 8.2	GREEN = x 100
D — 1.3	K — 2.2	S — 3.6	Y — 5.6	9 — 9.1	BLUE = x 1000
E — 1.5	L — 2.4	T — 3.9	Z — 6.2		VIOLET = x 10000
					RED = x 100000

--- TABLE 3 ---

8. ELECTRICAL REPLACEMENT PARTS LIST

Loca.No	Part No	Description & Specification	Remark
126	69063-214-372	ASSY MAIN BOARD;VP-J52 PAL	
VIDEO/AUDIO PARTS			
C111	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C112	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C113	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C114	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C115	A1106-0150	C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U)	
C116	61454-157-473	C-CERAMIC CHIP;C1608 JF1C 473ZT	
C118	61454-154-472	C-CERAMIC CHIP;C1608 JB1H 472KT	
C119	61454-154-681	C-CERAMIC CHIP;C1608 B1H 681KT	
C120	A1106-0150	C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U)	
C121	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C122	61454-153-181	C-CERAMIC CHIP;C1608 CH1H181JT	
C123	61454-153-470	C-CERAMIC CHIP;C1608 CH1H470JT	
C135	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C136	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C137	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C138	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C139	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C140	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C141	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C143	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C144	A1100-0776	C-CERAMIC,CHIP;CK 73 Y5V 16V T 224-Z C1608 C1608Y5	
C145	A1100-0776	C-CERAMIC,CHIP;CK 73 Y5V 16V T 224-Z C1608 C1608Y5	
C146	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C148	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C149	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C150	A1106-0150	C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U)	
C151	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C152	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C153	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C154	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C161	61454-153-151	C-CERAMIC CHIP;C1608 CH1H151JT	
C162	61454-153-101	C-CERAMIC CHIP;C1608 CH1H101JT	
C163	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C164	A1100-0754	C-CERAMIC,CHIP;C1608-CH1H620JT	
C165	61454-153-101	C-CERAMIC CHIP;C1608 CH1H101JT	
C171	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C172	61454-154-222	C-CERAMIC CHIP;1608 B1H 222KT	
C173	61454-153-330	C-CERAMIC CHIP;C1608 CH1H330JT	
C174	61454-153-271	C-CERAMIC CHIP;C1608 CH1H271JT	
C175	61454-153-270	C-CERAMIC CHIP;C1608 CH1H270JT	
C176	61454-155-223	C-CERAMIC CHIP;C1608 JB1C 223KT	
C178	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C179	61454-153-100	C-CERAMIC CHIP;C1608 CH1H100DT	
C181	61454-155-223	C-CERAMIC CHIP;C1608 JB1C 223KT	
C182	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C190	A1106-0150	C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U)	
C192	61454-153-330	C-CERAMIC CHIP;C1608 CH1H330JT	
C193	61454-153-101	C-CERAMIC CHIP;C1608 CH1H101JT	
C195	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C196	A1106-0150	C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U)	
C197	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C202	61454-153-121	C-CERAMIC CHIP;C1608 CH1H121JT	
C203	A1106-0150	C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U)	
C204	61454-153-470	C-CERAMIC CHIP;C1608 CH1H470JT	
C211	61454-153-271	C-CERAMIC CHIP;C1608 CH1H271JT	
C212	61454-153-470	C-CERAMIC CHIP;C1608 CH1H470JT	
C213	61454-154-332	C-CERAMIC CHIP;C1608 B1H 332KT	
C214	61454-153-330	C-CERAMIC CHIP;C1608 CH1H330JT	
C215	61454-153-151	C-CERAMIC CHIP;C1608 CH1H151JT	
C216	61454-153-111	C-CERAMIC CHIP;C1608 CH1H111JT	
C217	61454-153-150	C-CERAMIC CHIP;C1608 CH1H150JT	
C218	61454-153-390	C-CERAMIC CHIP;C1608 CH1H390JT	

Loca.No	Part No	Description & Specification	Remark
C219	61454-154-332	C-CERAMIC CHIP;C1608 B1H 332KT	
C220	61454-153-820	C-CERAMIC CHIP;C1608 CH1H820JT	
C221	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C228	61454-153-080	C-CERAMIC CHIP;C1608 CH1H080DT	
C229	61454-153-180	C-CERAMIC CHIP;C1608 CH1H180JT	
C231	61454-153-391	C-CERAMIC CHIP;C1608 JB1H 391KT	
C232	61454-153-331	C-CERAMIC CHIP;C1608 CH1H331JT	
C233	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C234	61454-153-151	C-CERAMIC CHIP;C1608 CH1H151JT	
C236	A1106-0155	C-TANTALUM,CHIP;SCS0J 476MR-C(6.3V/47U)	
C237	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C238	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C239	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
C240	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
C241	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
C242	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C243	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
C245	A1106-0148	C-TANTALUM,CHIP;SCS1A 335MR-A(10V/3.3U)	
C246	A1106-0148	C-TANTALUM,CHIP;SCS1A 335MR-A(10V/3.3U)	
C247	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
C248	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C249	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C250	A1106-0090	C-TANTALUM,CHIP;CS 25V T 474-M C3216 SCN1E 474MR-A	
C251	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
C252	A1106-0090	C-TANTALUM,CHIP;CS 25V T 474-M C3216 SCN1E 474MR-A	
C253	A1100-0675	C-CERAMIC,CHIP;CK 73 Y5V 16V T 225-Z C2012	
C254	A1106-0149	C-TANTALUM,CHIP;CS 10V 475-M C3216	
C255	61454-242-221	C-ELEC.CHIP;ECE-V0GA221P	
C256	A1100-0776	C-CERAMIC,CHIP;CK 73 Y5V 16V T 224-Z C1608 C1608Y5	
C257	A1106-0155	C-TANTALUM,CHIP;SCS0J 476MR-C(6.3V/47U)	
C258	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C259	61454-153-101	C-CERAMIC CHIP;C1608 CH1H101JT	
C260	A1106-0071	C-TANTALUM.CHIP;SCN1C 105MR-A(16V/1U)	
C261	61454-154-682	C-CERAMIC CHIP;C1608 B1H 682KT	
C262	61454-155-223	C-CERAMIC CHIP;C1608 JB1C 223KT	
C263	A1106-0228	C-TANTALUM,CHIP;CS 20V T 684-M C3216 SCN1D684MR-A(	
C264	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C267	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
C268	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C269	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C271	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C272	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C273	A1106-0150	C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U)	
C292	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
C294	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C301	A1106-0150	C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U)	
C303	61454-153-271	C-CERAMIC CHIP;C1608 CH1H271JT	
C304	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C305	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C306	61454-153-390	C-CERAMIC CHIP;C1608 CH1H390JT	
C308	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C309	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
C310	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C315	61454-153-101	C-CERAMIC CHIP;C1608 CH1H101JT	
C340	61454-153-390	C-CERAMIC CHIP;C1608 CH1H390JT	
C362	61454-153-150	C-CERAMIC CHIP;C1608 CH1H150JT	
C363	A1100-0669	C-CERAMIC,CHIP;CK 73 X7R 25V T 104-Z C2012	
C364	A1106-0155	C-TANTALUM,CHIP;SCS0J 476MR-C(6.3V/47U)	
C368	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C381	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
C382	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C401	A1106-0071	C-TANTALUM.CHIP;SCN1C 105MR-A(16V/1U)	
C403	A1106-0105	C-TANTALUM,CHIP;CS 35V T 104-M C3216 SCN1V 104MR-A	
C404	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C405	A1106-0149	C-TANTALUM,CHIP;CS 10V 475-M C3216	
C406	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	

Loca.No	Part No	Description & Specification	Remark
C407	61454-157-473	C-CERAMIC CHIP;C1608 JF1C 473ZT	
C408	61454-157-473	C-CERAMIC CHIP;C1608 JF1C 473ZT	
C410	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C411	61454-153-560	C-CERAMIC CHIP;C1608 CH1H560JT	
C412	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C413	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C414	A1106-0127	C-TANTALUM,CHIP;CS 6.3V T 107-M C7343	
C415	A1106-0149	C-TANTALUM,CHIP;CS 10V 475-M C3216	
C417	61454-153-221	C-CERAMIC CHIP;C1608 CH1H221JT	
C418	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C419	A1106-0071	C-TANTALUM.CHIP;SCN1C 105MR-A(16V/1 U)	
C420	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
C421	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C422	61454-154-222	C-CERAMIC CHIP;1608 B1H 222KT	
C423	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
C426	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C427	61454-154-222	C-CERAMIC CHIP;1608 B1H 222KT	
C429	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C430	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
C432	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C741	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C742	61454-153-100	C-CERAMIC CHIP;C1608 CH1H100DT	
C743	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C744	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
C745	61454-153-101	C-CERAMIC CHIP;C1608 CH1H101JT	
C746	A1106-0020	C-TANTALUM,CHIP;CS 16V T 225-M C3216 SCS1C 225MR-A	
C747	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C748	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C749	61454-153-391	C-CERAMIC CHIP;C1608 JB1H 391KT	
C750	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C751	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C752	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C753	61454-153-560	C-CERAMIC CHIP;C1608 CH1H560JT	
C754	61454-153-470	C-CERAMIC CHIP;C1608 CH1H470JT	
C755	61454-153-120	C-CERAMIC CHIP;C1608 CH1H120JT	
C765	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C766	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C767	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C768	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C769	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C770	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C771	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C772	61454-153-820	C-CERAMIC CHIP;C1608 CH1H820JT	
C773	61454-153-180	C-CERAMIC CHIP;C1608 CH1H180JT	
C774	61454-153-270	C-CERAMIC CHIP;C1608 CH1H270JT	
C775	61454-153-101	C-CERAMIC CHIP;C1608 CH1H101JT	
C776	61454-153-270	C-CERAMIC CHIP;C1608 CH1H270JT	
C777	61454-153-270	C-CERAMIC CHIP;C1608 CH1H270JT	
C778	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
C779	61454-153-470	C-CERAMIC CHIP;C1608 CH1H470JT	
C780	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
C781	61454-153-101	C-CERAMIC CHIP;C1608 CH1H101JT	
C782	61454-153-470	C-CERAMIC CHIP;C1608 CH1H470JT	
C783	61454-153-470	C-CERAMIC CHIP;C1608 CH1H470JT	
C784	61454-153-100	C-CERAMIC CHIP;C1608 CH1H100DT	
C785	61454-153-680	C-CERAMIC CHIP;C1608 CH1H680JT	
C786	61454-153-100	C-CERAMIC CHIP;C1608 CH1H100DT	
C787	A1106-0150	C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U)	
C788	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
C789	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
CN101	B6010-0829	CONNECTOR-WAFER;52497-1190 WHT CARD EDGE	
CN201	B6010-0777	CONNECTOR-WAFER;53263-1691 WHT	
CN301	B6010-0779	CONNECTOR-WAFER;53261-0490 WHT	
CTP101	B6012-0230	CONNECTOR-HOUSING;52357-1691 WHT	
D171	62169-901-062	DIODE.CHIP;DCC010TA-F	
D231	A4114-0011	DIODE-ARRAY,CHIP;SAN202U(T106) 80V 100MA 4.0NS 80V	

Loca.No	Part No	Description & Specification	Remark
D368	62169-901-077	DIODE.CHIP;MA110-(TX)	
D741	62169-901-077	DIODE.CHIP;MA110-(TX)	
IC101	62119-121-033	IC-FP;CXA1202R-T3	
IC201	B4008-1040	IC;CXA1700R QFP	
IC401	B4000-0028	IC-ROM;LA7454W/CXA1488R QFP	
IC741	B4008-1124	IC;M52358VP SOP	
IC765	B4014-0050	IC-CCD;CXL1506N VSOP	
L101	B1160-0040	INDUCTOR,CHIP;33UH-K 73 NLC252018T-330K C2520	
L102	B1160-0040	INDUCTOR,CHIP;33UH-K 73 NLC252018T-330K C2520	
L161	B1160-0030	INDUCTOR,CHIP;10UH-J 73 NL252018T-100J C2520	
L171	B1160-0038	INDUCTOR,CHIP;470UH-J 73 NL322522T-471J C3225	
L172	B1160-0037	INDUCTOR,CHIP;330UH-J 73 NL322522T-331J C3225	
L173	62429-962-181	INDUCTOR-CHIP;NL322522T 181-J	
L174	62429-962-181	INDUCTOR-CHIP;NL322522T 181-J	
L180	B1160-0033	INDUCTOR,CHIP;56UH-J 73 NL252018T-560J C2520	
L190	B1160-0030	INDUCTOR,CHIP;10UH-J 73 NL252018T-100J C2520	
L195	B1160-0010	INDUCTOR-CHIP;NLC322522T-101K	
L202	B1160-0032	INDUCTOR,CHIP;33UH-J 73 NL252018T-330J C2520	
L203	B1160-0033	INDUCTOR,CHIP;56UH-J 73 NL252018T-560J C2520	
L214	B1160-0032	INDUCTOR,CHIP;33UH-J 73 NL252018T-330J C2520	
L215	B1160-0037	INDUCTOR,CHIP;330UH-J 73 NL322522T-331J C3225	
L216	B1160-0037	INDUCTOR,CHIP;330UH-J 73 NL322522T-331J C3225	
L218	B1160-0037	INDUCTOR,CHIP;330UH-J 73 NL322522T-331J C3225	
L219	B1160-0035	INDUCTOR,CHIP;100UH-J 73 NL252018T-101J C2520	
L225	B1160-0029	INDUCTOR,CHIP;8.2UH-J 73 NL252018T-8R2J C2520	
L227	62429-962-152	INDUCTOR-CHIP;NL322522T 151-J	
L228	B1160-0035	INDUCTOR,CHIP;100UH-J 73 NL252018T-101J C2520	
L229	B1160-0035	INDUCTOR,CHIP;100UH-J 73 NL252018T-101J C2520	
L291	B1160-0010	INDUCTOR-CHIP;NLC322522T-101K	
L292	B1160-0012	INDUCTOR-CHIP;NLC322522T-470K	
L293	B1160-0010	INDUCTOR-CHIP;NLC322522T-101K	
L301	B1160-0033	INDUCTOR,CHIP;56UH-J 73 NL252018T-560J C2520	
L302	B1160-0028	INDUCTOR,CHIP;4.7UH-J 73 NL252018T-4R7J C2520	
L304	B1160-0032	INDUCTOR,CHIP;33UH-J 73 NL252018T-330J C2520	
L401	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
L741	B1160-0010	INDUCTOR-CHIP;NLC322522T-101K	
L742	B1160-0030	INDUCTOR,CHIP;10UH-J 73 NL252018T-100J C2520	
L765	B1160-0040	INDUCTOR,CHIP;33UH-K 73 NLC252018T-330K C2520	
L766	B1160-0040	INDUCTOR,CHIP;33UH-K 73 NLC252018T-330K C2520	
L767	B1160-0032	INDUCTOR,CHIP;33UH-J 73 NL252018T-330J C2520	
L768	B1160-0030	INDUCTOR,CHIP;10UH-J 73 NL252018T-100J C2520	
L769	B1160-0028	INDUCTOR,CHIP;4.7UH-J 73 NL252018T-4R7J C2520	
L770	B1160-0028	INDUCTOR,CHIP;4.7UH-J 73 NL252018T-4R7J C2520	
L771	B1160-0032	INDUCTOR,CHIP;33UH-J 73 NL252018T-330J C2520	
Q110	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
Q120	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q121	A4050-0123	TR-GENERAL,CHIP;DTA144EU(T108) 200MW 100MA 250MHZ	
Q171	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q175	62129-301-116	TRANSISTOR.CHIP;2SC 3142(REEL)	
Q176	A4050-0123	TR-GENERAL,CHIP;DTA144EU(T108) 200MW 100MA 250MHZ	
Q190	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q201	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q228	A4050-0122	TR-GENERAL,CHIP;2SA1578(T106) 200MW 100MA 140MHZ 5	
Q250	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q264	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q270	A4050-0131	TR-GENERAL,CHIP;DTC114EU(T106) 200MW 100M 250MHZ 5	
Q274	A4050-0122	TR-GENERAL,CHIP;2SA1578(T106) 200MW 100MA 140MHZ 5	
Q300	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q301	A4050-0123	TR-GENERAL,CHIP;DTA144EU(T108) 200MW 100MA 250MHZ	
Q351	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
Q352	A4050-0122	TR-GENERAL,CHIP;2SA1578(T106) 200MW 100MA 140MHZ 5	
Q359	A4050-0122	TR-GENERAL,CHIP;2SA1578(T106) 200MW 100MA 140MHZ 5	
Q360	A4050-0122	TR-GENERAL,CHIP;2SA1578(T106) 200MW 100MA 140MHZ 5	
Q368	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
Q369	A4050-0123	TR-GENERAL,CHIP;DTA144EU(T108) 200MW 100MA 250MHZ	
Q374	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	

Loca.No	Part No	Description & Specification	Remark
Q386	62129-301-115	TRANSISTOR.CHIP;2SB 1119(REEL)T-TC	
Q387	62129-301-115	TRANSISTOR.CHIP;2SB 1119(REEL)T-TC	
Q741	A4050-0123	TR-GENERAL,CHIP;DTA144EU(T108) 200MW 100MA 250MHZ	
Q742	A4050-0123	TR-GENERAL,CHIP;DTA144EU(T108) 200MW 100MA 250MHZ	
Q765	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q766	A4050-0123	TR-GENERAL,CHIP;DTA144EU(T108) 200MW 100MA 250MHZ	
QM125	B4056-0045	TR-SWITCHING,CHIP;UMX2 200MW 1MHZ SI/NPN TR	
QM141	B4056-0046	TR-SWITCHING,CHIP;UMZ1 200MW 1MHZ SI/PNP TR	
QM151	B4056-0048	TR-SWITCHING,CHIP;UMD3 200MW 1MHZ SI/PNP TR	
QM161	B4056-0044	TR-SWITCHING,CHIP;UMT2 200MW 1MHZ SI/PNP TR	
QM202	B4056-0045	TR-SWITCHING,CHIP;UMX2 200MW 1MHZ SI/NPN TR	
QM203	B4056-0046	TR-SWITCHING,CHIP;UMZ1 200MW 1MHZ SI/PNP TR	
QM224	B4056-0045	TR-SWITCHING,CHIP;UMX2 200MW 1MHZ SI/NPN TR	
QM301	B4056-0045	TR-SWITCHING,CHIP;UMX2 200MW 1MHZ SI/NPN TR	
QM302	B4056-0045	TR-SWITCHING,CHIP;UMX2 200MW 1MHZ SI/NPN TR	
QM385	B4056-0047	TR-SWITCHING,CHIP;UMG3 200MW 1MHZ SI/NPN TR	
QM741	B4056-0045	TR-SWITCHING,CHIP;UMX2 200MW 1MHZ SI/NPN TR	
QM742	B4050-0145	TR-GENERAL,CHIP;UMH6HR 200MW 1A 1MHZ 50V SI/NPN TR	
QM743	B4050-0145	TR-GENERAL,CHIP;UMH6HR 200MW 1A 1MHZ 50V SI/NPN TR	
QM765	B4056-0045	TR-SWITCHING,CHIP;UMX2 200MW 1MHZ SI/NPN TR	
QM766	B4056-0045	TR-SWITCHING,CHIP;UMX2 200MW 1MHZ SI/NPN TR	
QM767	B4056-0045	TR-SWITCHING,CHIP;UMX2 200MW 1MHZ SI/NPN TR	
R111	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R112	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R113	61079-918-154	R-CHIP;RH C1608 CS 154-J	
R114	61079-918-154	R-CHIP;RH C1608 CS 154-J	
R116	61079-918-823	R-CHIP;RH C1608 CS 823-J	
R117	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R118	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R119	61079-918-821	R-CHIP;RH C1608 CS 821-J	
R120	61079-918-333	R-CHIP;RH C1608 CS 333-J	
R121	61079-918-153	R-CHIP;RH C1608 CS 153-J	
R122	61079-918-271	R-CHIP;RH C1608 CS 271-J	
R123	61079-918-122	R-CHIP;RH C1608 CS 122-J	
R124	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R125	61079-918-823	R-CHIP;RH C1608 CS 823-J	
R134	61079-918-333	R-CHIP;RH C1608 CS 333-J	
R135	61079-918-682	R-CHIP;RH C1608 CS 682-J	
R137	61079-918-182	R-CHIP;RH C1608 CS 182-J	
R138	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R139	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R140	61079-918-152	R-CHIP;RH C1608 CS 152-J	
R141	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R142	61079-918-333	R-CHIP;RH C1608 CS 333-J	
R143	61079-918-273	R-CHIP;RH C1608 CS 273-J	
R144	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R145	61079-918-152	R-CHIP;RH C1608 CS 152-J	
R146	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R147	61079-918-682	R-CHIP;RH C1608 CS 682-J	
R148	61079-918-333	R-CHIP;RH C1608 CS 333-J	
R149	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R150	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R151	61079-918-822	R-CHIP;RH C1608 CS 822-J	
R161	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R162	61079-918-333	R-CHIP;RH C1608 CS 333-J	
R163	61079-918-221	R-CHIP;RH C1608 CS 221-J	
R164	61079-918-271	R-CHIP;RH C1608 CS 271-J	
R165	61079-918-220	R-CHIP;RH C1608 CS 220-J	
R166	61079-918-332	R-CHIP;RH C1608 CS 332-J	
R171	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R172	61079-918-331	R-CHIP;RH C1608 CS 331-J	
R173	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R174	61079-918-333	R-CHIP;RH C1608 CS 333-J	
R175	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R176	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R178	61079-918-682	R-CHIP;RH C1608 CS 682-J	

Loca.No	Part No	Description & Specification	Remark
R179	61079-918-680	R-CHIP;RH C1608 CS 680-J	
R180	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R181	61079-918-152	R-CHIP;RH C1608 CS 152-J	
R182	61079-918-182	R-CHIP;RH C1608 CS 182-J	
R183	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R184	61079-918-560	R-CHIP;RH C1608 CS 560-J	
R185	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R187	61079-918-122	R-CHIP;RH C1608 CS 122-J	
R188	61079-918-182	R-CHIP;RH C1608 CS 182-J	
R189	61079-918-183	R-CHIP;RH C1608 CS 183-J	
R190	61079-918-183	R-CHIP;RH C1608 CS 183-J	
R191	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R192	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R193	61079-918-101	R-CHIP;RH C1608 CS 101-J	
R200	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R201	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R202	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R203	61079-918-331	R-CHIP;RH C1608 CS 331-J	
R204	61079-918-331	R-CHIP;RH C1608 CS 331-J	
R205	61079-918-681	R-CHIP;RH C1608 CS 681-J	
R209	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R210	61079-918-152	R-CHIP;RH C1608 CS 152-J	
R211	61079-918-151	R-CHIP;RH C1608 CS 151-J	
R212	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R213	61079-918-821	R-CHIP;RH C1608 CS 821-J	
R214	61079-918-332	R-CHIP;RH C1608 CS 332-J	
R215	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R216	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R217	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R218	61079-918-123	R-CHIP;RH C1608 CS 123-J	
R219	61079-918-681	R-CHIP;RH C1608 CS 681-J	
R220	61079-918-101	R-CHIP;RH C1608 CS 101-J	
R221	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R222	61079-918-181	R-CHIP;RH C1608 CS 181-J	
R223	61079-918-151	R-CHIP;RH C1608 CS 151-J	
R224	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R225	61079-918-681	R-CHIP;RH C1608 CS 681-J	
R226	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R227	61079-918-221	R-CHIP;RH C1608 CS 221-J	
R228	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R229	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R230	61079-918-123	R-CHIP;RH C1608 CS 123-J	
R231	61079-918-122	R-CHIP;RH C1608 CS 122-J	
R232	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R233	61079-918-821	R-CHIP;RH C1608 CS 821-J	
R235	61079-918-302	R-CHIP;RH C1608 CS 302-J	
R236	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R237	61079-918-562	R-CHIP;RH C1608 CS 562-J	
R238	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R239	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R240	61079-918-562	R-CHIP;RH C1608 CS 562-J	
R241	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R242	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R244	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R245	61079-918-224	R-CHIP;RH C1608 CS 224-J	
R246	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R247	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R248	61079-918-682	R-CHIP;RH C1608 CS 682-J	
R249	61079-918-390	R-CHIP;RH C1608 CS 390-J	
R250	61079-918-390	R-CHIP;RH C1608 CS 390-J	
R251	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R252	61079-918-750	R-CHIP;RH C1608 CS 750-J	
R253	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R254	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R256	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R257	61079-918-683	R-CHIP;RH C1608 CS 683-J	

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R258	61079-918-393	R-CHIP;RH C1608 CS 393-J	
R259	61079-918-392	R-CHIP;RH C1608 CS 392-J	
R260	61079-918-562	R-CHIP;RH C1608 CS 562-J	
R261	61079-918-183	R-CHIP;RH C1608 CS 183-J	
R262	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R263	61079-918-682	R-CHIP;RH C1608 CS 682-J	
R264	61079-918-122	R-CHIP;RH C1608 CS 122-J	
R266	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R267	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R268	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R269	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R270	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R272	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R273	61079-918-101	R-CHIP;RH C1608 CS 101-J	
R274	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R275	61079-918-333	R-CHIP;RH C1608 CS 333-J	
R277	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R278	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R288	61079-918-271	R-CHIP;RH C1608 CS 271-J	
R289	61079-918-392	R-CHIP;RH C1608 CS 392-J	
R298	61079-918-100	R-CHIP;RH C1608 CS 100-J	
R299	61079-918-100	R-CHIP;RH C1608 CS 100-J	
R301	61079-918-562	R-CHIP;RH C1608 CS 562-J	
R302	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R303	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R304	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R305	61079-918-152	R-CHIP;RH C1608 CS 152-J	
R306	61079-918-152	R-CHIP;RH C1608 CS 152-J	
R307	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R308	61079-918-821	R-CHIP;RH C1608 CS 821-J	
R310	61079-918-821	R-CHIP;RH C1608 CS 821-J	
R315	61079-918-101	R-CHIP;RH C1608 CS 101-J	
R352	61079-918-562	R-CHIP;RH C1608 CS 562-J	
R353	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R354	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R357	61079-918-151	R-CHIP;RH C1608 CS 151-J	
R358	61079-918-562	R-CHIP;RH C1608 CS 562-J	
R359	61079-918-682	R-CHIP;RH C1608 CS 682-J	
R360	61079-918-122	R-CHIP;RH C1608 CS 122-J	
R361	61079-918-332	R-CHIP;RH C1608 CS 332-J	
R362	61079-918-272	R-CHIP;RH C1608 CS 272-J	
R368	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R369	61079-918-339	R-CHIP;RH C1608 CS 3R3-J	
R374	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R383	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R384	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R385	61079-918-562	R-CHIP;RH C1608 CS 562-J	
R386	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R390	61079-918-100	R-CHIP;RH C1608 CS 100-J	
R391	61079-918-100	R-CHIP;RH C1608 CS 100-J	
R397	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R398	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R399	61079-917-000	R-CHIP;RH C2012 CS 000-J	
R401	61079-918-182	R-CHIP;RH C1608 CS 182-J	
R402	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R403	A1020-0347	R-CHIP;RMC 1/16 3.3M-J	
R404	B1020-0702	R-CHIP;RH 1/16 CS 103-D C1608 RR0816P-103-D	
R405	B1020-0711	R-CHIP;RH 1/16 CS 752-D C1608 RR0816P-752-D	
R406	61079-918-183	R-CHIP;RH C1608 CS 183-J	
R407	61079-918-682	R-CHIP;RH C1608 CS 682-J	
R408	61079-918-123	R-CHIP;RH C1608 CS 123-J	
R409	61079-918-393	R-CHIP;RH C1608 CS 393-J	
R410	61079-918-393	R-CHIP;RH C1608 CS 393-J	
R411	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R412	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R413	61079-918-103	R-CHIP;RH C1608 CS 103-J	

Loca.No	Part No	Description & Specification	Remark
R414	61079-918-333	R-CHIP;RH C1608 CS 333-J	
R415	61079-917-220	R-CHIP;RH C2012 CS 220-J	
R418	61079-918-153	R-CHIP;RH C1608 CS 153-J	
R420	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R421	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R422	61079-918-684	R-CHIP;RH C1608 CS 684-J	
R424	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R741	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R742	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R743	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R744	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R745	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R746	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R747	61079-918-332	R-CHIP;RH C1608 CS 332-J	
R748	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R749	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R750	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R751	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R752	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R753	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R754	61079-918-273	R-CHIP;RH C1608 CS 273-J	
R755	61079-918-330	R-CHIP;RH C1608 CS 330-J	
R756	61079-918-121	R-CHIP;RH C1608 CS 121-J	
R757	61079-918-272	R-CHIP;RH C1608 CS 272-J	
R758	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R759	61079-918-182	R-CHIP;RH C1608 CS 182-J	
R760	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R761	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R762	61079-918-821	R-CHIP;RH C1608 CS 821-J	
R763	61079-918-562	R-CHIP;RH C1608 CS 562-J	
R765	61079-918-564	R-CHIP;RH C1608 CS 564-J	
R767	61079-918-823	R-CHIP;RH C1608 CS 823-J	
R768	61079-918-121	R-CHIP;RH C1608 CS 121-J	
R769	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R770	61079-918-681	R-CHIP;RH C1608 CS 681-J	
R771	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R772	61079-918-242	R-CHIP;RH C1608 CS 242-J	
R773	61079-918-680	R-CHIP;RH C1608 CS 680-J	
R774	61079-918-271	R-CHIP;RH C1608 CS 271-J	
R775	61079-918-681	R-CHIP;RH C1608 CS 681-J	
R776	61079-918-221	R-CHIP;RH C1608 CS 221-J	
R777	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R778	61079-918-122	R-CHIP;RH C1608 CS 122-J	
R779	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R780	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R781	61079-918-182	R-CHIP;RH C1608 CS 182-J	
R782	61079-918-390	R-CHIP;RH C1608 CS 390-J	
R783	61079-918-821	R-CHIP;RH C1608 CS 821-J	
R784	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R785	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R786	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R787	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R788	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R789	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R790	61079-918-000	R-CHIP;RH C1608 CS 000-J	
SW201	B3006-0067	SW-SLIDE;1C2P NSH 2V HSW1022-01-020	
VR201	61249-924-001	VR-SEMI CHIP;EVM-1XSX50B13	
VR251	B1056-0011	VR-SEMI CHIP;EVM1XSX50B24 20KB CARBON	
VR255	61249-924-007	VR-SEMI CHIP;EVM-1XSX50B54	
VR256	61249-924-007	VR-SEMI CHIP;EVM-1XSX50B54	
VR301	B1056-0010	VR-SEMI CHIP;EVM1XSX50B52 500B CARBON	
VR401	61249-924-002	VR-SEMI CHIP;EVM-1XSX50B14	
VR765	61249-924-001	VR-SEMI CHIP;EVM-1XSX50B13	
X261	B1280-0146	CRYSTAL;4.433619MHZ CX-49F 30PPM CHIP	
SYSCON/SERVO PARTS			
C501	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	

Loca.No	Part No	Description & Specification	Remark
C502	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C503	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C504	61454-154-472	C-CERAMIC CHIP;C1608 JB1H 472KT	
C505	61454-155-223	C-CERAMIC CHIP;C1608 JB1C 223KT	
C506	61454-155-223	C-CERAMIC CHIP;C1608 JB1C 223KT	
C507	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C508	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C509	61454-158-473	C-CERAMIC CHIP;C1608 JB1C 473KT	
C510	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C511	61454-158-473	C-CERAMIC CHIP;C1608 JB1C 473KT	
C512	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C513	61454-154-682	C-CERAMIC CHIP;C1608 B1H 682KT	
C514	61454-153-391	C-CERAMIC CHIP;C1608 JB1H 391KT	
C515	61454-153-101	C-CERAMIC CHIP;C1608 CH1H101JT	
C517	A1106-0150	C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U)	
C518	A1106-0150	C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U)	
C519	A1106-0150	C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U)	
C520	61454-158-473	C-CERAMIC CHIP;C1608 JB1C 473KT	
C521	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C522	A1100-0776	C-CERAMIC,CHIP;CK 73 Y5V 16V T 224-Z C1608 C1608Y5	
C523	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C524	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C525	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C526	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C527	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C528	A1100-0017	C-CERAMIC,CHIP;CK 73 Z5U 50V T 104-Z C2012 21F104Z	
C529	A1106-0149	C-TANTALUM,CHIP;CS 10V 475-M C3216	
C530	A1100-0046	C-CERAMIC,CHIP;CK 73 Z5U 50V T 224-Z C3216 31F 224	
C531	A1100-0046	C-CERAMIC,CHIP;CK 73 Z5U 50V T 224-Z C3216 31F 224	
C532	61454-154-682	C-CERAMIC CHIP;C1608 B1H 682KT	
C533	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C534	61454-154-332	C-CERAMIC CHIP;C1608 B1H 332KT	
C535	61454-154-332	C-CERAMIC CHIP;C1608 B1H 332KT	
C536	61454-154-332	C-CERAMIC CHIP;C1608 B1H 332KT	
C537	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C539	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C541	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C542	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C543	A1100-0675	C-CERAMIC,CHIP;CK 73 Y5V 16V T 225-Z C2012	
C544	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C545	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C546	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C547	A1100-0017	C-CERAMIC,CHIP;CK 73 Z5U 50V T 104-Z C2012 21F104Z	
C548	A1106-0018	C-TANTALUM,CHIP;CS 10V T 476-M C7343 SCS1A 476MR-D	
C549	A1100-0017	C-CERAMIC,CHIP;CK 73 Z5U 50V T 104-Z C2012 21F104Z	
C550	61454-153-470	C-CERAMIC CHIP;C1608 CH1H470JT	
C551	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
C562	A1100-0776	C-CERAMIC,CHIP;CK 73 Y5V 16V T 224-Z C1608 C1608Y5	
C563	61454-153-331	C-CERAMIC CHIP;C1608 CH1H331JT	
C564	61454-153-221	C-CERAMIC CHIP;C1608 CH1H221JT	
C601	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C602	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C603	A1106-0127	C-TANTALUM,CHIP;CS 6.3V T 107-M C7343	
C604	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C605	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C606	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C607	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C608	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C609	61454-153-330	C-CERAMIC CHIP;C1608 CH1H330JT	
C610	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
C611	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C612	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C613	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C614	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C615	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C616	61454-153-120	C-CERAMIC CHIP;C1608 CH1H120JT	

Loca.No	Part No	Description & Specification	Remark
C617	61454-153-120	C-CERAMIC CHIP;C1608 CH1H120JT	
C618	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C619	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C620	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C621	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C625	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C626	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C629	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C631	61454-153-120	C-CERAMIC CHIP;C1608 CH1H120JT	
C632	61454-153-100	C-CERAMIC CHIP;C1608 CH1H100DT	
C635	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C643	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
C650	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C651	A1106-0016	C-TANTALUM.CHIP;SCS1A 106MR-B(10V/10U)	
C653	A1106-0071	C-TANTALUM.CHIP;SCN1C 105MR-A(16V/1U)	
CN501	B6010-0831	CONNECTOR-WAFER;CEW9315-0101R WHT CARD EDGE	
CN502	B6010-0830	CONNECTOR-WAFER;52497-1390 WHT CARD EDGE	
CN504	B6010-0789	CONNECTOR-WAFER;3-175634-4 BLK	
CN505	B6010-0781	CONNECTOR-CARD EDGE;52497-0690 WHT	
CN601	B6010-0918	CONNECTOR-HOUSING;IL-WXA-24S-VF-B-E1000 WHT	
CN602	B6010-0894	CONNECTOR-HOUSING;IL-WXA-30S-VF-E1000 WHT	
CTP501	B6012-0230	CONNECTOR-HOUSING;52357-1691 WHT	
D604	A4114-0011	DIODE-ARRAY,CHIP;SAN202U(T106) 80V 100MA 4.0NS 80V	
IC501	A4004-0197	IC-LOGIC;KA8322 QFP	
IC502	B4008-0916	IC-DRIVE;TPIC1327DF SOP	
IC503	B4008-0870	IC;LB1851M QFP(TP-T1)	
IC504	B4004-0198	IC-LOGIC;BA6285FS SOP	
IC505	B4008-1128	IC-OP AMP;TA75S01F(TE85L) QFP	
IC506	B4008-1128	IC-OP AMP;TA75S01F(TE85L) QFP	
IC601	67199-0118-00	MICOM;CXP80P724 VN-405 QFP	
IC602	B4008-1038	IC;S-8420BF-T1 SOP	
IC603	B4004-0199	IC-LOGIC;TC7SU04F SOP	
IC604	B4008-1107	IC;BU5998FS QFP	
IC605	B4012-0338	IC-LINEAR;NJM2249V SSOP	
L601	B1160-0010	INDUCTOR-CHIP;NLC322522T-101K	
L602	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
L603	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
L604	B1160-0033	INDUCTOR,CHIP;56UH-J 73 NL252018T-560J C2520	
L605	B1160-0012	INDUCTOR-CHIP;NLC322522T-470K	
L606	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
Q501	A4050-0122	TR-GENERAL,CHIP;2SA1578(T106) 200MW 100MA 140MHZ 5	
Q502	A4050-0123	TR-GENERAL,CHIP;DTA144EU(T108) 200MW 100MA 250MHZ	
Q503	A4050-0131	TR-GENERAL,CHIP;DTC114EU(T106) 200MW 100M 250MHZ 5	
Q602	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
Q605	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
R503	61079-918-474	R-CHIP;RH C1608 CS 474-J	
R506	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R507	61079-918-122	R-CHIP;RH C1608 CS 122-J	
R509	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R510	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R511	61079-918-393	R-CHIP;RH C1608 CS 393-J	
R512	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R513	61079-918-684	R-CHIP;RH C1608 CS 684-J	
R514	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R515	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R516	61079-918-153	R-CHIP;RH C1608 CS 153-J	
R518	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R519	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R521	61079-918-273	R-CHIP;RH C1608 CS 273-J	
R522	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R523	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R524	61079-918-224	R-CHIP;RH C1608 CS 224-J	
R525	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R527	61079-918-105	R-CHIP;RH C1608 CS 105-J	
R528	61079-918-334	R-CHIP;RH C1608 CS 334-J	
R529	61079-918-823	R-CHIP;RH C1608 CS 823-J	

Loca.No	Part No	Description & Specification	Remark
R530	61079-918-153	R-CHIP;RH C1608 CS 153-J	
R531	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R532	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R533	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R534	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R535	61079-918-392	R-CHIP;RH C1608 CS 392-J	
R536	61079-918-392	R-CHIP;RH C1608 CS 392-J	
R537	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R538	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R539	61079-918-682	R-CHIP;RH C1608 CS 682-J	
R540	61079-918-682	R-CHIP;RH C1608 CS 682-J	
R541	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R542	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R543	61079-918-273	R-CHIP;RH C1608 CS 273-J	
R544	61079-918-273	R-CHIP;RH C1608 CS 273-J	
R545	61079-918-273	R-CHIP;RH C1608 CS 273-J	
R546	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R547	61079-916-333	R-CHIP;RH C2012 CS 333-F	
R548	61079-916-122	R-CHIP;RH C2012 CS 122-F	
R549	61079-918-221	R-CHIP;RH C1608 CS 221-J	
R550	61079-917-010	R-CHIP;RH C2012 CS 010-J	
R551	61079-917-010	R-CHIP;RH C2012 CS 010-J	
R552	61079-917-010	R-CHIP;RH C2012 CS 010-J	
R553	61079-917-010	R-CHIP;RH C2012 CS 010-J	
R554	61079-918-292	R-CHIP;RH C1608 CS 2R2-J	
R555	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R556	61079-918-272	R-CHIP;RH C1608 CS 272-J	
R557	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R558	A1020-0430	R-CHIP;RH 1/16 CS 203-J C1608 RMC 1/16 20K-J	
R559	61079-918-292	R-CHIP;RH C1608 CS 2R2-J	
R560	61079-918-292	R-CHIP;RH C1608 CS 2R2-J	
R561	61079-918-272	R-CHIP;RH C1608 CS 272-J	
R562	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R563	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R564	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R566	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R567	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R568	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R569	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R570	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R571	61079-918-333	R-CHIP;RH C1608 CS 333-J	
R573	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R574	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R575	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R576	61079-918-393	R-CHIP;RH C1608 CS 393-J	
R578	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R579	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R580	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R581	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R582	61079-918-393	R-CHIP;RH C1608 CS 393-J	
R584	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R585	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R586	61079-918-332	R-CHIP;RH C1608 CS 332-J	
R587	61079-918-682	R-CHIP;RH C1608 CS 682-J	
R588	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R589	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R601	61079-918-334	R-CHIP;RH C1608 CS 334-J	
R602	B1020-0712	R-CHIP;RH 1/16 CS 153-D C1608 RR0816P-153-D	
R603	61079-918-334	R-CHIP;RH C1608 CS 334-J	
R604	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R605	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R606	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R607	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R608	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R609	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R610	61079-918-102	R-CHIP;RH C1608 CS 102-J	

Loca.No	Part No	Description & Specification	Remark
R611	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R612	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R613	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R614	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R616	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R617	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R618	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R619	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R631	61079-918-272	R-CHIP;RH C1608 CS 272-J	
R632	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R633	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R635	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R636	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R637	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R639	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R641	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R642	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R643	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R644	B1020-0705	R-CHIP;RH 1/16 CS 104-D C1608 RR0816R-104-D	
R646	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R647	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R648	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R649	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R650	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R651	61079-918-183	R-CHIP;RH C1608 CS 183-J	
R652	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R653	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R655	61079-217-101	R-CHIP;RH C3216 CS 101-J	
R656	B1020-0705	R-CHIP;RH 1/16 CS 104-D C1608 RR0816R-104-D	
R657	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R658	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R659	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R663	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R664	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R665	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R666	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R668	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R669	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R670	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R676	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R677	A1020-0430	R-CHIP;RH 1/16 CS 203-J C1608 RMC 1/16 20K-J	
R678	61079-918-822	R-CHIP;RH C1608 CS 822-J	
R679	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R680	61079-918-105	R-CHIP;RH C1608 CS 105-J	
R693	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RM501	B1018-0042	R-NETWORK;RN 1/16 FV 8P 104-J MNR14-E0-100K-J 3216	
RM506	B1018-0041	R-NETWORK,CHIP;RN 1/16 FV 8P 103-J MNR14-E0-10K-J	
RM507	B1018-0041	R-NETWORK,CHIP;RN 1/16 FV 8P 103-J MNR14-E0-10K-J	
RM603	B1018-0041	R-NETWORK,CHIP;RN 1/16 FV 8P 103-J MNR14-E0-10K-J	
RM604	B1018-0042	R-NETWORK;RN 1/16 FV 8P 104-J MNR14-E0-100K-J 3216	
RM605	B1018-0041	R-NETWORK,CHIP;RN 1/16 FV 8P 103-J MNR14-E0-10K-J	
RM606	B1018-0042	R-NETWORK;RN 1/16 FV 8P 104-J MNR14-E0-100K-J 3216	
RM607	B1018-0041	R-NETWORK,CHIP;RN 1/16 FV 8P 103-J MNR14-E0-10K-J	
SW601	B3018-0041	SW-TACT,CHIP;EVQ-QH9-03W 6.2X6.8MM YEL 1KEY	
SW602	B3000-0031	SW-PUSH;1C1P 6.55MM ML SH SPPW81-6.55-A2 T	
SW603	B3000-0031	SW-PUSH;1C1P 6.55MM ML SH SPPW81-6.55-A2 T	
VR601	61249-924-003	VR-SEMI CHIP;EVM-1XSX50B15	
VR603	61249-924-003	VR-SEMI CHIP;EVM-1XSX50B15	
XT601	64539-021-010	CRYSTAL;P-3(32.768KHZ)	
XT602	B1280-0101	CRYSTAL;11.71875MHZ CX-49F 50PPM	
DC/DC CONVERTER PARTS			
C901	A1106-0016	C-TANTALUM.CHIP;SCS1A 106MR-B(10V/10U)	
C902	B1100-0674	C-CERAMIC,CHIP;CK 73 Y5V 16V T 685-Z C3225	
C903	A1106-0016	C-TANTALUM.CHIP;SCS1A 106MR-B(10V/10U)	
C904	A1100-0675	C-CERAMIC,CHIP;CK 73 Y5V 16V T 225-Z C2012	
C905	A1106-0016	C-TANTALUM.CHIP;SCS1A 106MR-B(10V/10U)	

Loca.No	Part No	Description & Specification	Remark
C906	B1100-0674	C-CERAMIC,CHIP;CK 73 Y5V 16V T 685-Z C3225	
C907	61454-154-222	C-CERAMIC CHIP;1608 B1H 222KT	
C908	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C909	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C910	61454-154-222	C-CERAMIC CHIP;1608 B1H 222KT	
C911	61454-154-682	C-CERAMIC CHIP;C1608 B1H 682KT	
C912	A1106-0149	C-TANTALUM,CHIP;CS 10V 475-M C3216	
C914	61619-911-229	C-ELEC.CHIP;UWX1H2R2 MCR2GB PI3 2.2U/50V	
C915	61619-911-229	C-ELEC.CHIP;UWX1H2R2 MCR2GB PI3 2.2U/50V	
C916	B1100-0752	C-CERAMIC,CHIP;CK 73 Y5V 25V T 105-Z C3216 C3216Y5	
C917	B1100-0752	C-CERAMIC,CHIP;CK 73 Y5V 25V T 105-Z C3216 C3216Y5	
C918	A1100-0675	C-CERAMIC,CHIP;CK 73 Y5V 16V T 225-Z C2012	
C919	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C920	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C921	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C922	A1106-0025	C-TANTALUM,CHIP;CS 20V T 105-M C3216 SCS1D 105MR-A	
C923	61454-158-473	C-CERAMIC CHIP;C1608 JB1C 473KT	
C924	A1106-0025	C-TANTALUM,CHIP;CS 20V T 105-M C3216 SCS1D 105MR-A	
C925	A1106-0025	C-TANTALUM,CHIP;CS 20V T 105-M C3216 SCS1D 105MR-A	
C926	61454-154-821	C-CERAMIC CHIP;C1608JB1H 821KT	
C927	61454-153-820	C-CERAMIC CHIP;C1608 CH1H820JT	
C928	A1106-0150	C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U)	
C929	A1106-0010	C-TANTALUM,CHIP;CS 6.3V T 106-M C3528 SCSOJ 106MR	
C930	A1100-0675	C-CERAMIC,CHIP;CK 73 Y5V 16V T 225-Z C2012	
C931	A1106-0010	C-TANTALUM,CHIP;CS 6.3V T 106-M C3528 SCSOJ 106MR	
C932	61454-153-181	C-CERAMIC CHIP;C1608 CH1H181JT	
C933	61454-153-120	C-CERAMIC CHIP;C1608 CH1H120JT	
C934	A1100-0675	C-CERAMIC,CHIP;CK 73 Y5V 16V T 225-Z C2012	
C935	A1106-0010	C-TANTALUM,CHIP;CS 6.3V T 106-M C3528 SCSOJ 106MR	
C936	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
C937	61454-153-120	C-CERAMIC CHIP;C1608 CH1H120JT	
C938	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
C939	A1106-0010	C-TANTALUM,CHIP;CS 6.3V T 106-M C3528 SCSOJ 106MR	
C940	A1106-0010	C-TANTALUM,CHIP;CS 6.3V T 106-M C3528 SCSOJ 106MR	
C941	A1106-0150	C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U)	
C942	61454-153-820	C-CERAMIC CHIP;C1608 CH1H820JT	
C943	61454-154-821	C-CERAMIC CHIP;C1608JB1H 821KT	
C944	A1100-0675	C-CERAMIC,CHIP;CK 73 Y5V 16V T 225-Z C2012	
C945	61454-154-682	C-CERAMIC CHIP;C1608 B1H 682KT	
C946	61454-154-682	C-CERAMIC CHIP;C1608 B1H 682KT	
C947	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
CN901	B6010-0728	CONNECTOR-WAFER;CGP4705-0101 GRY CHIP	
D901	62169-106-011	DIODE-ZENER.CHIP;RD-12M T1B	
D903	62169-901-077	DIODE.CHIP;MA110-(TX)	
D904	62169-901-103	DIODE CHIP;IMN10(T108)	
D905	A4114-0013	DIODE-ARRAY,CHIP;DA204K(T146) 20V 10MA 4.0NS 20V C	
D906	A4114-0013	DIODE-ARRAY,CHIP;DA204K(T146) 20V 10MA 4.0NS 20V C	
D907	62169-102-054	DIODE-SHOTTKY.CHIP;E10QS03-TE12R	
F901	B3065-0167	FUSE;FSF 125V 2.0A 6.1MM UL/CSA 451002 C	
IC901	B4008-0969	IC-S/W REGU;TL1455C 5CH DIP	
L901	B1160-0013	INDUCTOR,CHIP;1UH-M 73 NLC322522T-1R0M C3225	
L902	B1160-0013	INDUCTOR,CHIP;1UH-M 73 NLC322522T-1R0M C3225	
L903	B1160-0013	INDUCTOR,CHIP;1UH-M 73 NLC322522T-1R0M C3225	
L904	B1160-0018	INDUCTOR,CHIP;3.3UH-M 73 NLC322522T-3R3M C3225	
L905	B1160-0013	INDUCTOR,CHIP;1UH-M 73 NLC322522T-1R0M C3225	
L906	B1144-0026	COIL-CHIP;CHOKE 646FY-100M(10UH) 10UH-M T	
L908	B1160-0013	INDUCTOR,CHIP;1UH-M 73 NLC322522T-1R0M C3225	
L909	B1160-0019	INDUCTOR,CHIP;330UH-K 73 NLC322522T-331K C3225	
L910	B1160-0019	INDUCTOR,CHIP;330UH-K 73 NLC322522T-331K C3225	
L911	B1160-0019	INDUCTOR,CHIP;330UH-K 73 NLC322522T-331K C3225	
L912	B1160-0018	INDUCTOR,CHIP;3.3UH-M 73 NLC322522T-3R3M C3225	
L913	B1144-0024	COIL-CHIP;CHOKE 646CY-470M(47UH) 47UH-M T	
L914	B1144-0024	COIL-CHIP;CHOKE 646CY-470M(47UH) 47UH-M T	
L915	B1144-0024	COIL-CHIP;CHOKE 646CY-470M(47UH) 47UH-M T	
L916	B1144-0023	COIL-CHIP;CHOKE 646CY-220M(22UH) 22UH-M T	
L917	B1160-0018	INDUCTOR,CHIP;3.3UH-M 73 NLC322522T-3R3M C3225	

Loca.No	Part No	Description & Specification	Remark
L918	B1160-0011	INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225	
L919	B1160-0011	INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225	
L920	B1160-0013	INDUCTOR,CHIP;1UH-M 73 NLC322522T-1R0M C3225	
L921	B1160-0018	INDUCTOR,CHIP;3.3UH-M 73 NLC322522T-3R3M C3225	
Q901	A4050-0128	TR-GENERAL,CHIP;DTC124EU(T106) 200MW 100MA 250MHZ	
Q903	A4050-0128	TR-GENERAL,CHIP;DTC124EU(T106) 200MW 100MA 250MHZ	
Q904	62129-304-014	TRANSISTOR-CHIP;IMB2(T110)	
Q907	A4050-0123	TR-GENERAL,CHIP;DTA144EU(T108) 200MW 100MA 250MHZ	
Q908	A4050-0128	TR-GENERAL,CHIP;DTC124EU(T106) 200MW 100MA 250MHZ	
Q909	62129-304-014	TRANSISTOR-CHIP;IMB2(T110)	
Q910	A4050-0098	TR-GENERAL,CHIP;2SB1302 1.3W 5A 320MHZ 25V SI/PNP	
Q911	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q912	B4056-0032	TR-SWITCHING;FP101 1.3W 150MHZ SI/PNP T	
Q913	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q914	B4056-0032	TR-SWITCHING;FP101 1.3W 150MHZ SI/PNP T	
Q915	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q916	62129-301-120	TRANSISTOR.CHIP;2SB 1121(REEL)T-TC	
Q917	B4056-0031	TR-SWITCHING;FP102 1.3W 400MHZ SI/PNP T	
Q918	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q919	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q920	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
R901	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R902	61079-918-822	R-CHIP;RH C1608 CS 822-J	
R903	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R904	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R905	61079-918-124	R-CHIP;RH C1608 CS 124-J	
R906	B1020-0699	R-CHIP;RH 1/16 CS 472-D C1608 RR0816P-472-D	
R907	B1020-0699	R-CHIP;RH 1/16 CS 472-D C1608 RR0816P-472-D	
R908	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R909	61079-918-124	R-CHIP;RH C1608 CS 124-J	
R910	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R911	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R912	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R913	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R914	61079-918-124	R-CHIP;RH C1608 CS 124-J	
R915	61079-918-333	R-CHIP;RH C1608 CS 333-J	
R918	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R919	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R920	61079-918-273	R-CHIP;RH C1608 CS 273-J	
R921	61079-918-221	R-CHIP;RH C1608 CS 221-J	
R922	A1020-0430	R-CHIP;RH 1/16 CS 203-J C1608 RMC 1/16 20K-J	
R923	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R924	61079-917-331	R-CHIP;RH C2012 CS 331-J	
R925	B1020-0713	R-CHIP;RH 1/16 CS 123-D C1608 RR0816P-123-D	
R926	B1020-0698	R-CHIP;RH 1/16 CS 272-D C1608 RR0816P-272-D	
R929	B1020-0701	R-CHIP;RH 1/16 CS 822-D C1608 RR0816P-822-D	
R930	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R931	61079-918-183	R-CHIP;RH C1608 CS 183-J	
R932	61079-917-681	R-CHIP;RH C2012 CS 681-J	
R933	61079-918-562	R-CHIP;RH C1608 CS 562-J	
R934	61079-918-182	R-CHIP;RH C1608 CS 182-J	
R939	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R940	61079-918-562	R-CHIP;RH C1608 CS 562-J	
R941	61079-918-182	R-CHIP;RH C1608 CS 182-J	
R942	61079-917-681	R-CHIP;RH C2012 CS 681-J	
R943	61079-918-183	R-CHIP;RH C1608 CS 183-J	
R944	61079-918-272	R-CHIP;RH C1608 CS 272-J	
R945	61079-918-333	R-CHIP;RH C1608 CS 333-J	
R946	61079-918-822	R-CHIP;RH C1608 CS 822-J	
R947	61079-917-102	R-CHIP;RH C2012 CS 102-J	
R948	A1020-0430	R-CHIP;RH 1/16 CS 203-J C1608 RMC 1/16 20K-J	
R949	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R950	61079-917-471	R-CHIP;RH C2012 CS 471-J	
R951	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R952	61079-918-272	R-CHIP;RH C1608 CS 272-J	
R953	61079-918-102	R-CHIP;RH C1608 CS 102-J	

Loca.No	Part No	Description & Specification	Remark
R955	B1020-0695	R-CHIP;RH 1/16 CS 122-D C1608 RR0816P-122-D	
T901	67189-0040-00	CONVERTER-COIL;CMS64 6319-JPS-010	
VR903	B1056-0010	VR-SEMI CHIP;EVM1XSX50B52 500B CARBON	
VR905	61249-924-001	VR-SEMI CHIP;EVM-1XSX50B13	
114	**69063-214-374**	**ASSY FUNCTION BOARD;VP-J52 PAL**	
C960	61454-158-473	C-CERAMIC CHIP;C1608 JB1C 473KT	
C961	61454-158-473	C-CERAMIC CHIP;C1608 JB1C 473KT	
CN960	B6010-0423	CONNECTOR-WAFER;53261-0390 WHT	
CN962	B6013-0056	CONNECTOR-FPC;SD-52435-2091 WHT	
L960	B1160-0039	INDUCTOR,CHIP;10UH-K 73 NLC252018T-100K C2520	
R960	B1020-0719	R-CHIP;RH 1/16 CS 183-D C1608 RRO816P-183-D	
R962	B1020-0703	R-CHIP;RH 1/16 CS 333-D C1608 RR0816P-333-D	
R965	B1020-0715	R-CHIP;RH 1/16 CS 473-D C1608 RR0816R-473-D	
R966	B1020-0705	R-CHIP;RH 1/16 CS 104-D C1608 RR0816R-104-D	
R967	B1020-0719	R-CHIP;RH 1/16 CS 183-D C1608 RRO816P-183-D	
R969	B1020-0703	R-CHIP;RH 1/16 CS 333-D C1608 RR0816P-333-D	
R970	B1020-0715	R-CHIP;RH 1/16 CS 473-D C1608 RR0816R-473-D	
R971	B1020-0705	R-CHIP;RH 1/16 CS 104-D C1608 RR0816R-104-D	
R975	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R976	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R977	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R978	61079-918-684	R-CHIP;RH C1608 CS 684-J	
R979	61079-918-000	R-CHIP;RH C1608 CS 000-J	
S960	B3018-0025	SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY	
S961	B3018-0025	SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY	
S962	B3018-0025	SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY	
S963	B3018-0025	SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY	
S964	B3018-0025	SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY	
S965	B3018-0025	SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY	
S966	B3018-0025	SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY	
S967	B3006-0057	SW-SLIDE;2C2P SH 4H SSST-0-12-B	
S968	B3006-0060	SW-SLIDE,CHIP;1C2P NSH 4V SSSS2-23-12	
S969	B3012-0010	SW-ROTARY;10C9P 2.5MM SH SRBQ02 16V0.1A(DC)	
141	**69063-214-282**	**ASSY BATTERY TERMINAL;SV-J50**	
CN801	B6010-0728	CONNECTOR-WAFER;CGP4705-0101 GRY CHIP	
148	**69063-214-515**	**ASSY A/V JACK;VP-J50**	
CN250	B6012-0230	CONNECTOR-HOUSING;52357-1691 WHT	
J250	63334-104-073	JACK ASSY-A/V OUT;RCA/DC OUT	
156	**69063-214-342**	**ASSY-MIC;VN-J50**	
C451	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C452	A1106-0150	C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U)	
C453	A1106-0105	C-TANTALUM,CHIP;CS 35V T 104-M C3216 SCN1V 104MR-A	
C454	61454-155-153	C-CERAMIC CHIP;C1608 B1H 153T-K	
C455	A1106-0149	C-TANTALUM,CHIP;CS 10V 475-M C3216	
C456	61454-154-562	C-CERAMIC CHIP;C1608 B1H 562KT	
CN451	B6010-0901	CONNECTOR-WAFER;SD53398-0390 WHT	
Q451	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q452	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q453	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
R451	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R452	61079-918-683	R-CHIP;RH C1608 CS 683-J	
R453	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R454	61079-918-122	R-CHIP;RH C1608 CS 122-J	
R455	61079-918-122	R-CHIP;RH C1608 CS 122-J	
R456	61079-918-221	R-CHIP;RH C1608 CS 221-J	
R457	61079-918-273	R-CHIP;RH C1608 CS 273-J	
R458	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R459	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R460	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R461	61079-918-683	R-CHIP;RH C1608 CS 683-J	
R462	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R463	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R464	61079-918-181	R-CHIP;RH C1608 CS 181-J	
R465	61079-918-102	R-CHIP;RH C1608 CS 102-J	
179	**69063-214-377**	**ASSY REMOCON BOARD;VP-J52 PAL**	
C050	A1106-0155	C-TANTALUM,CHIP;SCS0J 476MR-C(6.3V/47U)	

Loca.No	Part No	Description & Specification	Remark
CN050	B6010-0919	CONNECTOR-WAFER;IL-WXA-24P-HF-B-E1000 WHT	
CN051	B6012-0131	CONNECTOR-HOUSING;4-175635-6 BLK	
LE050	62309-110-340	LED;GL-3HD7/GL3HD8	
R050	61079-918-470	R-CHIP;RH C1608 CS 470-J	
R051	61079-918-391	R-CHIP;RH C1608 CS 391-J	
RM050	B1294-0026	MODULE-REMOCON;GP1U901X 38KHZ 940 MESH	
161	**69063-214-519**	**ASSY DELAY BOARD;PAL VP-J50**	
CNT01	B6012-0197	CONNECTOR-HOUSING;SD-52465-1491 WHT	
CT02	61454-153-100	C-CERAMIC CHIP;C1608 CH1H100DT	
CT03	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
CT04	61454-153-200	C-CERAMIC CHIP;C1608 CH1H200JT	
DT01	62169-901-077	DIODE.CHIP;MA110-(TX)	
DT02	62169-901-077	DIODE.CHIP;MA110-(TX)	
ICT01	B4004-0340	IC-LOGIC;TC7W04FU-TE12L SOP TAPE 8P	
ICT02	62119-701-094	IC-FP;TC74HC132AF(EL)	
RT01	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RT02	61079-918-000	R-CHIP;RH C1608 CS 000-J	
RT03	61079-918-471	R-CHIP;RH C1608 CS 471-J	
RT04	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RT05	61079-918-102	R-CHIP;RH C1608 CS 102-J	
178	**69063-214-382**	**ASSY AUTO BOARD;VP-J52 PAL**	
CA01	61454-154-472	C-CERAMIC CHIP;C1608 JB1H 472KT	
CA02	61454-154-472	C-CERAMIC CHIP;C1608 JB1H 472KT	
CA03	61454-154-392	C-CERAMIC CHIP;C1608 B1H 392KT	
CA04	61454-154-472	C-CERAMIC CHIP;C1608 JB1H 472KT	
CA05	61454-154-472	C-CERAMIC CHIP;C1608 JB1H 472KT	
CA06	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
CA07	61454-154-392	C-CERAMIC CHIP;C1608 B1H 392KT	
CA08	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
CA09	A1106-0219	C-TANTALUM,CHIP;CS 16V T 106-M C6032 SCN1C106MR-C(	
CA10	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
CA12	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CA13	61454-157-333	C-CERAMIC CHIP;C1608 B1C 333T-K	
CA14	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
CA16	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
CA17	A1100-0675	C-CERAMIC,CHIP;CK 73 Y5V 16V T 225-Z C2012	
CA18	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CA19	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CA20	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
CA21	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
CA22	A1106-0150	C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U)	
CA23	61454-158-473	C-CERAMIC CHIP;C1608 JB1C 473KT	
CA24	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
CA25	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CA26	61454-153-470	C-CERAMIC CHIP;C1608 CH1H470JT	
CA27	61454-153-470	C-CERAMIC CHIP;C1608 CH1H470JT	
CA29	A1106-0150	C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U)	
CA30	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
CA31	61454-154-472	C-CERAMIC CHIP;C1608 JB1H 472KT	
CA32	61454-154-472	C-CERAMIC CHIP;C1608 JB1H 472KT	
CA33	61454-154-472	C-CERAMIC CHIP;C1608 JB1H 472KT	
CA34	61454-154-472	C-CERAMIC CHIP;C1608 JB1H 472KT	
CA35	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CNA01	B6013-0048	CONNECTOR-FPC;04-6214-020-010-800 WHT	
CNA02	B6010-0387	CONNECTOR-WAFER;53048-0410 WHT	
CNA03	B6010-0917	CONNECTOR-WAFER;IL-WXA-36P-HF-E1000 WHT	
DA01	B4112-0020	DIODE-SCHOTTKY,CHIP;MA721WA 30V 200MA 30PF T	
DA02	B4112-0020	DIODE-SCHOTTKY,CHIP;MA721WA 30V 200MA 30PF T	
DA03	B4112-0020	DIODE-SCHOTTKY,CHIP;MA721WA 30V 200MA 30PF T	
DA04	B4112-0020	DIODE-SCHOTTKY,CHIP;MA721WA 30V 200MA 30PF T	
DA05	62169-901-077	DIODE.CHIP;MA110-(TX)	
ICA01	B4004-0041	IC-LOGIC;TB6504F SOP	
ICA02	B4004-0041	IC-LOGIC;TB6504F SOP	
ICA03	B4000-0053	IC-EEPROM;X24C01S-C7519 SOP	
ICA04	67199-0079-00	IC-FP;UPD78P214GC-AB8 OTP	
ICA05	B4008-0983	IC;MB88346B VSOP	

Loca.No	Part No	Description & Specification	Remark
ICA06	62119-402-030	IC-FP;NJM3414M(TE3)	
ICA07	B4012-0262	IC-LINEAR;NJM3403AV SOP	
LA01	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
LA02	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
LA04	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
LA05	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
QA01	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
QA02	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
QA03	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
QA04	A4050-0104	TR-GENERAL,CHIP;2SA 1179	
QA05	B4050-0088	TR-GENERAL,CHIP;IMZ1 300MW 100MA 50MHZ 50V SI/PNP	
QA06	A4050-0122	TR-GENERAL,CHIP;2SA1578(T106) 200MW 100MA 140MHZ 5	
QA07	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QA08	B4050-0088	TR-GENERAL,CHIP;IMZ1 300MW 100MA 50MHZ 50V SI/PNP	
QA10	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
QA11	A4050-0104	TR-GENERAL,CHIP;2SA 1179	
QA12	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
QA13	A4050-0104	TR-GENERAL,CHIP;2SA 1179	
QA14	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
QA15	A4050-0123	TR-GENERAL,CHIP;DTA144EU(T108) 200MW 100MA 250MHZ	
RA01	A1020-0569	R-CHIP;RH 1/10 CS 7R5-J C2012 RMC 1/10 7.5-J	
RA02	A1020-0569	R-CHIP;RH 1/10 CS 7R5-J C2012 RMC 1/10 7.5-J	
RA03	61079-917-478	R-CHIP;RH C2012 CS 4R7-J	
RA04	61079-917-478	R-CHIP;RH C2012 CS 4R7-J	
RA05	61079-918-104	R-CHIP;RH C1608 CS 104-J	
RA06	61079-918-391	R-CHIP;RH C1608 CS 391-J	
RA07	61079-918-563	R-CHIP;RH C1608 CS 563-J	
RA08	61079-918-104	R-CHIP;RH C1608 CS 104-J	
RA09	61079-918-391	R-CHIP;RH C1608 CS 391-J	
RA10	61079-918-563	R-CHIP;RH C1608 CS 563-J	
RA11	61079-918-100	R-CHIP;RH C1608 CS 100-J	
RA12	61079-918-473	R-CHIP;RH C1608 CS 473-J	
RA13	61079-918-122	R-CHIP;RH C1608 CS 122-J	
RA14	61079-918-104	R-CHIP;RH C1608 CS 104-J	
RA15	61079-918-104	R-CHIP;RH C1608 CS 104-J	
RA16	61079-918-151	R-CHIP;RH C1608 CS 151-J	
RA17	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RA18	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RA19	61079-918-104	R-CHIP;RH C1608 CS 104-J	
RA20	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RA21	A1020-0636	R-CHIP;RH 1/16 CS 333-F C1608	
RA22	A1020-0619	R-CHIP;RH 1/16 CS 223-F C1608	
RA23	61079-918-393	R-CHIP;RH C1608 CS 393-J	
RA24	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RA25	61079-918-122	R-CHIP;RH C1608 CS 122-J	
RA26	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RA27	61079-918-222	R-CHIP;RH C1608 CS 222-J	
RA28	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RA29	61079-918-333	R-CHIP;RH C1608 CS 333-J	
RA30	61079-918-273	R-CHIP;RH C1608 CS 273-J	
RA31	61079-918-223	R-CHIP;RH C1608 CS 223-J	
RA32	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RA35	A1020-0689	R-CHIP;RH 1/16 CS 243-F C1608	
RA36	A1020-0636	R-CHIP;RH 1/16 CS 333-F C1608	
RA37	61079-918-104	R-CHIP;RH C1608 CS 104-J	
RA38	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RA39	61079-918-153	R-CHIP;RH C1608 CS 153-J	
RA40	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RA42	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RA43	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RA44	61079-918-104	R-CHIP;RH C1608 CS 104-J	
RA45	61079-918-104	R-CHIP;RH C1608 CS 104-J	
RA46	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RA47	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RA48	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RA49	61079-918-102	R-CHIP;RH C1608 CS 102-J	

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RA50	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RA51	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RA53	61079-918-104	R-CHIP;RH C1608 CS 104-J	
RA54	61079-918-104	R-CHIP;RH C1608 CS 104-J	
RA56	61079-918-473	R-CHIP;RH C1608 CS 473-J	
RA57	61079-918-473	R-CHIP;RH C1608 CS 473-J	
RA58	61079-918-332	R-CHIP;RH C1608 CS 332-J	
RA59	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RA61	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RA62	61079-918-682	R-CHIP;RH C1608 CS 682-J	
RA70	61079-918-104	R-CHIP;RH C1608 CS 104-J	
RA71	61079-918-104	R-CHIP;RH C1608 CS 104-J	
XA01	B1280-0111	CRYSTAL;12MHZ CX-49F 100PPM CHIP	
174	**69063-214-381**	**ASSY PROCESS BOARD;VP-J52 PAL**	
CNP01	B6010-0895	CONNECTOR-WAFER;IL-WXA-30P-HF-E1000 WHT	
CNP02	B6010-0916	CONNECTOR-HOUSING;IL-WXA-36S-VF-E1000 WHT	
CNP03	B6010-0568	CONNECTOR-WAFER;SD-53307-1491 WHT	
CP01	A1106-0150	C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U)	
CP02	A1106-0071	C-TANTALUM.CHIP;SCN1C 105MR-A(16V/1U)	
CP03	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP04	A1106-0111	C-TANTALUM,CHIP;CS 35V T 105-M C3528 SCN1V 105MR-B	
CP06	A1106-0029	C-TANTALUM,CHIP;CS 20V T 106-M C6032 SCS1D 106MR-C	
CP07	A1106-0028	C-TANTALUM,CHIP;CS 20V T 475-M C3528 SCS1D 475MR-B	
CP08	61454-154-392	C-CERAMIC CHIP;C1608 B1H 392KT	
CP09	A1106-0150	C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U)	
CP10	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP101	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP102	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
CP11	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP110	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP113	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP116	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP117	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP119	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP12	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP120	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP122	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP123	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP13	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP133	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP139	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP14	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
CP15	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
CP151	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP154	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
CP155	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
CP156	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP157	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP16	A1106-0155	C-TANTALUM,CHIP;SCS0J 476MR-C(6.3V/47U)	
CP17	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP18	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP188	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
CP189	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
CP19	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
CP190	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
CP191	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP20	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
CP21	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
CP22	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
CP23	61454-153-100	C-CERAMIC CHIP;C1608 CH1H100DT	
CP25	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP26	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP27	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
CP28	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
CP29	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
CP30	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	

Loca.No	Part No	Description & Specification	Remark
CP31	61454-153-330	C-CERAMIC CHIP;C1608 CH1H330JT	
CP32	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
CP33	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP34	A1106-0155	C-TANTALUM,CHIP;SCS0J 476MR-C(6.3V/47U)	
CP35	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP36	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP37	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP39	A1106-0155	C-TANTALUM,CHIP;SCS0J 476MR-C(6.3V/47U)	
CP41	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
CP42	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
CP43	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP44	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP45	A1106-0155	C-TANTALUM,CHIP;SCS0J 476MR-C(6.3V/47U)	
CP46	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
CP47	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
CP48	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
CP49	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP50	A1106-0150	C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U)	
CP51	61454-153-180	C-CERAMIC CHIP;C1608 CH1H180JT	
CP52	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
CP53	A1106-0153	C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U)	
CP54	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP55	61454-153-470	C-CERAMIC CHIP;C1608 CH1H470JT	
CP56	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CTP01	B1111-0025	C-TRIMMER,CERA;TZCO3P00A110 CTA 30-6.5PF	
CTP02	B1111-0025	C-TRIMMER,CERA;TZCO3P00A110 CTA 30-6.5PF	
DP01	62169-901-070	DIODE.CHIP;MA151WA-(TX)	
DP02	62169-901-074	DIODE.CHIP;MA151WK-(TX)	
DP03	62169-901-077	DIODE.CHIP;MA110-(TX)	
DP04	62169-102-054	DIODE-SHOTTKY.CHIP;E10QS03-TE12R	
DP06	62169-901-068	DIODE.CHIP;MA341-(TX)	
FLP01	A1242-0009	FILTER-LC,CHIP;EQ G355ENK-K5159=P3 100M T DELAY 10	
FLP02	A1242-0014	FILTER-LC,CHIP;LP TH355LSK-K5165 5M T	
ICP01	B4014-0053	IC-CCD;ICX055-AK DIP	
ICP02	B4008-0898	IC;CXD-1250N SOP CCD DRIVER	
ICP03	A4008-1069	IC;KA7302 SOP	
ICP04	A4012-0192	IC-LINEAR;KAD0228 SOP	
ICP05	A4004-0873	IC-LOGIC;KDA0408 VQFP	
ICP06	A4004-0187	IC-LOGIC;KS7301 VQFP	
LP01	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
LP02	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
LP03	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
LP04	B1160-0011	INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225	
LP05	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
LP06	B1160-0035	INDUCTOR,CHIP;100UH-J 73 NL252018T-101J C2520	
LP08	B1160-0032	INDUCTOR,CHIP;33UH-J 73 NL252018T-330J C2520	
LP09	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
LP10	B1160-0055	INDUCTOR,CHIP;68UH-J 73 NL252018T-680J C2520	
LP11	B1160-0011	INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225	
LP12	B1160-0011	INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225	
QP01	62139-601-657	FET;2SK 300-3(T7)	
QP02	B4050-0088	TR-GENERAL,CHIP;IMZ1 300MW 100MA 50MHZ 50V SI/PNP	
QP03	62129-303-006	TRANSISTOR-CHIP;IMX1	
QP04	62129-303-006	TRANSISTOR-CHIP;IMX1	
QP05	B4050-0088	TR-GENERAL,CHIP;IMZ1 300MW 100MA 50MHZ 50V SI/PNP	
QP06	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QP07	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QP08	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QP09	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QP10	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QP104	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QP105	A4050-0104	TR-GENERAL,CHIP;2SA 1179	
QP11	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QP12	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QP13	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QP14	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	

Loca.No	Part No	Description & Specification	Remark
QP15	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
QP16	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QP17	A4060-0040	TR-W/RESISTOR;DTC143TU 200MW 100MA 50V SI/NPN T	
QP18	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
RP01	61079-918-821	R-CHIP;RH C1608 CS 821-J	
RP02	61079-918-273	R-CHIP;RH C1608 CS 273-J	
RP03	61079-918-184	R-CHIP;RH C1608 CS 184-J	
RP04	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RP05	61079-918-392	R-CHIP;RH C1608 CS 392-J	
RP06	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RP07	61079-918-105	R-CHIP;RH C1608 CS 105-J	
RP08	61079-918-100	R-CHIP;RH C1608 CS 100-J	
RP09	61079-918-100	R-CHIP;RH C1608 CS 100-J	
RP10	61079-918-123	R-CHIP;RH C1608 CS 123-J	
RP101	61079-918-471	R-CHIP;RH C1608 CS 471-J	
RP102	61079-918-471	R-CHIP;RH C1608 CS 471-J	
RP103	61079-918-471	R-CHIP;RH C1608 CS 471-J	
RP104	61079-918-471	R-CHIP;RH C1608 CS 471-J	
RP105	61079-918-471	R-CHIP;RH C1608 CS 471-J	
RP106	61079-918-471	R-CHIP;RH C1608 CS 471-J	
RP107	61079-918-471	R-CHIP;RH C1608 CS 471-J	
RP108	61079-918-471	R-CHIP;RH C1608 CS 471-J	
RP11	61079-918-105	R-CHIP;RH C1608 CS 105-J	
RP12	61079-918-100	R-CHIP;RH C1608 CS 100-J	
RP125	61079-918-100	R-CHIP;RH C1608 CS 100-J	
RP129	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RP13	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RP130	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RP131	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RP14	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RP147	61079-918-000	R-CHIP;RH C1608 CS 000-J	
RP15	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RP16	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RP17	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RP18	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RP188	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RP189	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RP19	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RP190	61079-918-682	R-CHIP;RH C1608 CS 682-J	
RP20	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RP21	61079-918-153	R-CHIP;RH C1608 CS 153-J	
RP22	61079-918-683	R-CHIP;RH C1608 CS 683-J	
RP23	61079-918-153	R-CHIP;RH C1608 CS 153-J	
RP24	61079-918-274	R-CHIP;RH C1608 CS 274-J	
RP26	A1020-0611	R-CHIP;RH 1/16 CS 183-F C1608	
RP27	A1020-0643	R-CHIP;RH 1/16 CS 393-F C1608	
RP28	61079-918-152	R-CHIP;RH C1608 CS 152-J	
RP29	61079-918-152	R-CHIP;RH C1608 CS 152-J	
RP30	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RP31	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RP32	61079-918-222	R-CHIP;RH C1608 CS 222-J	
RP33	61079-918-222	R-CHIP;RH C1608 CS 222-J	
RP34	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RP35	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RP36	61079-918-332	R-CHIP;RH C1608 CS 332-J	
RP37	61079-918-222	R-CHIP;RH C1608 CS 222-J	
RP38	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RP39	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RP40	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RP41	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RP42	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RP46	61079-918-104	R-CHIP;RH C1608 CS 104-J	
RP49	61079-918-000	R-CHIP;RH C1608 CS 000-J	
RP50	61079-918-100	R-CHIP;RH C1608 CS 100-J	
RP51	61079-918-100	R-CHIP;RH C1608 CS 100-J	
RP52	A1020-0627	R-CHIP;RH 1/16 CS 273-F C1608	

Loca No	Part No	Description & Specification	Remark
RP53	A1020-0618	R-CHIP;RH 1/16 CS 222-F C1608	
RP54	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RP55	A1020-0591	R-CHIP;RH 1/16 CS 102-F C1608	
RP56	A1020-0641	R-CHIP;RH 1/16 CS 391-F C1608	
RP57	A1020-0591	R-CHIP;RH 1/16 CS 102-F C1608	
RP58	A1020-0650	R-CHIP;RH 1/16 CS 471-F C1608	
RP59	A1020-0607	R-CHIP;RH 1/16 CS 162-F C1608	
RP60	A1020-0618	R-CHIP;RH 1/16 CS 222-F C1608	
RP61	A1020-0454	R-CHIP;RH 1/16 CS 511-J C1608 RMC 1/16 510-J	
RP62	A1020-0623	R-CHIP;RH 1/16 CS 242-F C1608	
RP63	A1020-0591	R-CHIP;RH 1/16 CS 102-F C1608	
RP64	A1020-0597	R-CHIP;RH 1/16 CS 122-F C1608	
RP65	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RP66	A1020-0623	R-CHIP;RH 1/16 CS 242-F C1608	
RP67	A1020-0617	R-CHIP;RH 1/16 CS 221-F C1608	
RP68	A1020-0591	R-CHIP;RH 1/16 CS 102-F C1608	
RP69	61079-918-153	R-CHIP;RH C1608 CS 153-J	
RP70	61079-918-333	R-CHIP;RH C1608 CS 333-J	
RP71	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RP72	A1020-0641	R-CHIP;RH 1/16 CS 391-F C1608	
RP73	A1020-0650	R-CHIP;RH 1/16 CS 471-F C1608	
RP74	A1020-0650	R-CHIP;RH 1/16 CS 471-F C1608	
RP75	A1020-0603	R-CHIP;RH 1/16 CS 152-F C1608	
RP76	A1020-0607	R-CHIP;RH 1/16 CS 162-F C1608	
RP77	A1020-0454	R-CHIP;RH 1/16 CS 511-J C1608 RMC 1/16 510-J	
RP78	61079-918-750	R-CHIP;RH C1608 CS 750-J	
RP79	61079-918-333	R-CHIP;RH C1608 CS 333-J	
RP80	61079-918-333	R-CHIP;RH C1608 CS 333-J	
RP81	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RP82	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RP84	61079-917-000	R-CHIP;RH C2012 CS 000-J	
RP85	61079-917-000	R-CHIP;RH C2012 CS 000-J	
TPP01	63124-103-382	TEST POINT-CHIP;EYF3CU(1608)	
TPP02	63124-103-382	TEST POINT-CHIP;EYF3CU(1608)	
TPP03	63124-103-382	TEST POINT-CHIP;EYF3CU(1608)	
XP01	B1280-0144	CRYSTAL;28.375MHZ CX-49F 30PPM CHIP TAPING	
XP02	B1280-0110	CRYSTAL;17.734476MHZ CX-49F 100PPM CHIP	
186	**69063-214-494**	**ASSY EVF BOARD;VP-J50 NTSC**	
CB01	61454-153-121	C-CERAMIC CHIP;C1608 CH1H121JT	
CB02	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
CB03	B1106-0018	C-TANTALUM,CHIP;TAJD476M010R	
CB04	61454-154-472	C-CERAMIC CHIP;C1608 JB1H 472KT	
CB05	A1106-0051	C-TANTALUM,CHIP;CS 6.3V T 225-M C3216 SCN0J 225MR	
CB06	B1102-0156	C-FILM,CHIP;CQS 162 M 16V T 104-J ECWU1C104JA5	
CB07	A1100-0017	C-CERAMIC,CHIP;CK 73 Z5U 50V T 104-Z C2012 21F104Z	
CB09	A1106-0219	C-TANTALUM,CHIP;CS 16V T 106-M C6032 SCN1C106MR-C(	
CB10	61454-153-151	C-CERAMIC CHIP;C1608 CH1H151JT	
CB11	61454-246-293	C-ELEC.CHIP;ECE-V1HA3R3R	
CB12	B1100-0630	C-CERAMIC,CHIP;GRM40 Y5V 105Z 16	
CB13	61647-802-101	C-ELEC.;CEAP 6.3V 100M SE(2.5)	
CB14	61617-504-220	C-ELECTROLYTIC;OS COND 16SC 22M(M)	
CB15	61617-504-220	C-ELECTROLYTIC;OS COND 16SC 22M(M)	
CB16	61507-121-420	C-POLYESTER;CQ921 M TAPG 50V 392-K	
CB17	A1100-0017	C-CERAMIC,CHIP;CK 73 Z5U 50V T 104-Z C2012 21F104Z	
CB18	61454-246-293	C-ELEC.CHIP;ECE-V1HA3R3R	
CB19	61507-121-360	C-POLYESTER;CQ921 M TAPG 50V 152-K	
CNB01	B6010-0779	CONNECTOR-WAFER;53261-0490 WHT	
CNB02	63349-900-010	CONNECTOR;CGP1604-0101	
CNB03	A3047-0014	SOCKET-CRT;SOCKET FINDER PI10 40MM	
DB02	62169-901-082	DIODE.CHIP;MA153-(TX)	
DB03	62169-901-043	DIODE.CHIP;MA151K-(TX)	
DB04	B4100-0033	DIODE-SW,CHIP;MA158-TX 200V 10NS T	
FTB01	B1201-0030	TRANS-FLYBACK;ECX-C2806C 0.6INCH 4.8V	
ICB01	62119-121-049	IC-FP;AN2512S-(E2)	
LB01	62429-961-474	INDUCTOR-CHIP;LQH3N 470-K	
LB03	B1150-0011	COIL-LINEARITY;230UH-+-15% PI0.12 ELH-5L222	

Loca.No	Part No	Description & Specification	Remark
QB01	A4050-0104	TR-GENERAL,CHIP;2SA 1179	
QB02	62129-301-172	TRANSISTOR.CHIP;2SD 968A-R/S(TX)	
QB03	A4050-0104	TR-GENERAL,CHIP;2SA 1179	
RB01	61079-918-105	R-CHIP;RH C1608 CS 105-J	
RB02	61079-918-330	R-CHIP;RH C1608 CS 330-J	
RB03	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RB04	61079-918-474	R-CHIP;RH C1608 CS 474-J	
RB05	61079-918-823	R-CHIP;RH C1608 CS 823-J	
RB06	61079-918-473	R-CHIP;RH C1608 CS 473-J	
RB07	61079-918-339	R-CHIP;RH C1608 CS 3R3-J	
RB08	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RB09	B1335-0002	THERMISTOR-CHIP;NTC CS 3216 3BH 471KC 470OHM/20DEG	
RB10	61079-918-182	R-CHIP;RH C1608 CS 182-J	
RB11	61079-917-472	R-CHIP;RH C2012 CS 472-J	
RB12	61079-917-512	R-CHIP;RH C2012 CS 512-J	
RB13	61079-917-102	R-CHIP;RH C2012 CS 102-J	
RB14	61079-917-823	R-CHIP;RH C2012 CS 823-J	
RB15	61079-917-822	R-CHIP;RH C2012 CS 822-J	
RB16	61079-917-393	R-CHIP;RH C2012 CS 393-J	
RB17	61079-917-561	R-CHIP;RH C2012 CS 561-J	
RB18	61079-917-180	R-CHIP;RH C2012 CS 180-J	
RB19	61079-917-335	R-CHIP;RH C2012 CS 335-J	
RB20	61079-917-335	R-CHIP;RH C2012 CS 335-J	
RB21	61079-917-332	R-CHIP;RH C2012 CS 332-J	
RB22	61079-917-000	R-CHIP;RH C2012 CS 000-J	
RB23	61079-917-000	R-CHIP;RH C2012 CS 000-J	
RB24	61079-917-102	R-CHIP;RH C2012 CS 102-J	
RB25	61079-917-622	R-CHIP;RH C2012 CS 622-J	
RB26	61079-918-274	R-CHIP;RH C1608 CS 274-J	
RB30	61079-917-000	R-CHIP;RH C2012 CS 000-J	
VRB01	B1056-0051	VR-SEMI CHIP;EVM1SSX50B54 50KB CERMET	
VRB02	B1056-0054	VR-SEMI CHIP;EVM1SSX50BE2 220B CERMET	
VRB04	B1056-0062	VR-SEMI CHIP;EVM1DSX30B16 1MB CERMET	
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* ACCESSORY

Loca.No	Part No	Description & Specification	Remark
	A7008-0039	**ADAPTER;AC90/264V 60HZ DC7.5V 1.5A FTZ/DEMCO CP2**	
	A6006-0086	POWER-CORD;AP2 KKJ1004A/KJ0201 1.8MT BLK SOLDRING	
		ASSY MAIN BOARD;AA-E1N/NTSC	
B101	62429-014-337	CHIP-FERRITE BEAD;HF50ACB322513-T	
B102	62429-014-337	CHIP-FERRITE BEAD;HF50ACB322513-T	
C101	B1102-0190	C-FILM;ECQ-U2A 224MV	
C102	A1100-0450	C-CERAMIC;CK 45 B 400V 222-M CK45B500V222K	
C103	A1100-0450	C-CERAMIC;CK 45 B 400V 222-M CK45B500V222K	
C104	A1100-0450	C-CERAMIC;CK 45 B 400V 222-M CK45B500V222K	
C105	A1100-0450	C-CERAMIC;CK 45 B 400V 222-M CK45B500V222K	
C106	B1104-0456	C-ELEC;CE 04 W 400V 470-K ECA2GV 470Y	
C107	A1102-0120	C-FILM;TM2JRB 103K	
C108	61637-206-330	C-ELEC;CEAP 35V 33M SA(6X11)	
C109	61637-508-101	C-ELEC-CEAP 50V 100M SG(10X12.5)	
C110	61509-144-520	C-POLYESTER;ECQ-VIH104JZ3/24538104D	
C111	61637-208-229	C-ELEC;CEAP 50V 2.2M SA (5X11)	
C112	B1102-0193	C-FILM;CQ 922 M 50V T 391-J ECQ-B1H391J F3	
C113	61509-121-560	C-POLYESTER;CQ92IM 50V 124-K	
C114	61507-121-341	C-POLYESTER;CQ921M TAPG 50V 102-J	
C150	61509-121-470	C-POLYESTER;CQ921M 50V 103-K	
C151	61507-121-341	C-POLYESTER;CQ921M TAPG 50V 102-J	
C152	61507-121-341	C-POLYESTER;CQ921M TAPG 50V 102-J	
C153	61637-504-102	C-ELEC;CEAP 16V 1000M SG(10X20)	
C154	A1104-0480	C-ELEC;CE 04 F 16V T 471-M STX/KME -40/105	
C155	61637-208-229	C-ELEC;CEAP 50V 2.2M SA (5X11)	
C156	61509-144-520	C-POLYESTER;ECQ-VIH104JZ3/24538104D	
C157	61647-708-010	C-ELEC;CEAP 50V 1M SS(2.5)	
CN151	B6010-0337	CONNECTOR WAFER;B8P-MQ WHT 8P	
D101	B4104-0041	DIODE-RECT;S1WBA60 600V 1A	
D102	B4112-0006	DIODE-SCHOTTKY;ERA22-10(1KV 0.5A)	
D103	B4106-0049	DIODE-ZENER;MTZ-20B	
D104	B4112-0006	DIODE-SCHOTTKY;ERA22-10(1KV 0.5A)	
D105	B4112-0006	DIODE-SCHOTTKY;ERA22-10(1KV 0.5A)	
D106	62169-406-482	DIODE;1N4148 SAMSUNG	
D107	A4106-0006	ZENER DIODE;MTZ 4.7B	
D108	62169-403-836	DIODE ZENER;UZ 24BH	
D151	B4112-0002	DIODE-SCHOTTKY;ESAC85M-009(90V 10A)	
D152	62169-501-064	DIODE;1N5819(ERB 81-004)V	
D153	62169-403-821	DIODE-ZENER;MTZ 5.1B	
D154	62169-406-482	DIODE;1N4148 SAMSUNG	
D155	62169-406-482	DIODE;1N4148 SAMSUNG	
F101	A3065-0154	FUSE;T1.25A 250V 51S 5X20MM SJ DOM	
F151	B3065-0114	FUSE-MICRO;FST 125V 2A 7.49MM L TR/MCR-2.0BUSS	
IC101	B4008-1002	IC;FA5304 DIP	
IC102	B4010-0011	IC;PC113(L) DIP	
IC151	62109-103-330	IC;LM358N	
L101	A1151-0001	COIL-LINE FILTER;BSF-2123 20MH 10OHM	
L151	A1132-0008	COIL-PEAKING;10UH-J RA EL0606RA-100J Q80 F22MHZ	
Q101	B4054-0018	FET;2SK904	
Q151	B4052-0027	TR;2SB1127S	
Q152	A4056-0019	TR-SWITCHING;2SD1207T 1W 150MHZ SI/NPN T	
Q153	B4060-0021	TR;DTC114ES	
Q154	B4060-0021	TR;DTC114ES	
R101	61028-328-275	R-COMPOSITION;RC 1/2 P 275-K/ERC12GK275	
R102	B1012-0014	R-WIRE;RW 2 P 3R3-K	
R103	61048-177-823	R-CARBON;RD 1/8 T 823-J	
R104	61048-177-823	R-CARBON;RD 1/8 T 823-J	
R105	61048-177-823	R-CARBON;RD 1/8 T 823-J	
R106	61049-527-473	R-METAL OXIDE;RS 2 P 473-J	
R107	A1010-0004	R-FUSIBLE;RF 1/2 P 010-J	
R108	61048-177-221	R-CARBON;RD 1/8 T 221-J	
R109	A1004-0220	R-METAL OXIDE;RS 1 P R47-J	
R110	61048-177-330	R-CARBON;RD 1/8 T 330-J	
R111	61048-177-330	R-CARBON;RD 1/8 T 330-J	
R112	61048-177-155	R-CARBON;RD 1/8 T 155-J	
R113	61048-177-822	R-CARBON;RD 1/8 T 822-J	

Loca.No	Part No	Description & Specification	Remark
R114	61048-177-823	R-CARBON;RD 1/8 T 823-J	
R150	61048-177-272	R-CARBON;RD 1/8 T 272-J	
R151	61048-277-100	R-CARBON;RD 1/4 T 100-J	
R152	61048-177-681	R-CARBON;RD 1/8 T 681-J	
R153	61048-177-272	R-CARBON;RD 1/8 T 272-J	
R154	61048-177-911	R-CARBON;RD 1/8 T 911-J	
R155	61048-177-222	R-CARBON;RD 1/8 T 222-J	
R156	61048-177-104	R-CARBON;RD 1/8 T 104-J	
R157	61048-177-472	R-CARBON;RD 1/8 T 472-J	
R158	61048-177-472	R-CARBON;RD 1/8 T 472-J	
R159	61048-177-100	R-CARBON;RD 1/8 T 100-J	
R160	A1004-0221	R-METAL OXIDE;RS 1 P 0R1-J	
R161	61048-177-221	R-CARBON;RD 1/8 T 221-J	
R162	61048-177-123	R-CARBON;RD 1/8 T 123-J	
R163	61048-177-911	R-CARBON;RD 1/8 T 911-J	
R164	61048-177-104	R-CARBON;RD 1/8 T 104-J	
R165	61048-177-621	R-CARBON;RD 1/8 T 621-J	
R166	A1010-0012	R-FUSIBLE;RF 1/2 P 4R7-J	
R167	61049-327-101	R-METAL OXIDE;RS 1 P 101-J	
R168	61048-177-103	R-CARBON;RD 1/8 T 103-J	
R169	61048-277-151	R-CARBON;RD 1/4 T 151-J	
R170	61048-177-103	R-CARBON;RD 1/8 T 103-J	
T101	A1199-0020	TRANS-POWER;EI25X19 AC90/260V 50HZ AC5.1V	
VR151	B1054-0138	VR-SEMI;KVSF637A-1/2W 1KB CARBON	
VR152	B1054-0139	VR-SEMI;KVSF637A-1/2W 5KB CARBON	
45	69063-213-943	ASSY SUB 1 BOARD;AA-E1 NTSC/PAL	
C158	A1100-0005	C-CERAMIC,CHIP;CK 73 Z5U 50V T 563-M C2012 21F-563	
C159	61647-702-470	C-ELEC;CEAP 6.3V 47M SS(2.5)	
C160	61454-143-473	C-CERAMIC.CHIP;0805 5E 473ZAT MA	
C161	A1100-0011	C-CERAMIC,CHIP;CK 73 X7R 50V T 103-K C2012 21B103K	
C162	61647-708-010	C-ELEC;CEAP 50V 1M SS(2.5)	
C163	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG	
CN152	B6010-0338	CONNECTOR WAFER;08MQ-ST WHT 8P	
D156	B4150-0044	LED;SLB25MG	
D157	B4106-0050	DIODE-ZENER;MTZ-15B	
D158	B4106-0050	DIODE-ZENER;MTZ-15B	
D159	62169-901-042	DIODE.CHIP;DAN202K	
D160	B4150-0045	LED;SLB25YY	
D161	62169-901-042	DIODE.CHIP;DAN202K	
D162	62169-901-042	DIODE.CHIP;DAN202K	
IC152	62109-201-410	IC;KA78L05(T)	
IC153	62109-201-314	IC;MB88211PF-166	
J151	63335-501-007	DC-JACK;HEC 0738-010010	
L152	A1130-0020	COIL-CHOKE;100UH-J RA 1KHZ PI0.35	
Q155	B4060-0021	TR;DTC114ES	
Q156	62129-101-140	TRANSISTOR.CHIP;KSR 2104(REEL)	
Q157	62129-101-110	TRANSISTOR.CHIP;KSR 1102 (REEL)	
R171	61079-917-391	R-CHIP;RH C2012 CS 391-J	
R172	61079-917-472	R-CHIP;RH C2012 CS 472-J	
R173	61079-917-103	R-CHIP;RH C2012 CS 103-J	
R174	61079-917-223	R-CHIP;RH C2012 CS 223-J	
R175	61079-917-102	R-CHIP;RH C2012 CS 102-J	
R176	61079-917-391	R-CHIP;RH C2012 CS 391-J	
R177	61079-917-561	R-CHIP;RH C2012 CS 561-J	
R178	61079-917-273	R-CHIP;RH C2012 CS 273-J	
R179	61079-917-183	R-CHIP;RH C2012 CS 183-J	
R180	61079-917-243	R-CHIP;RH C2012 CS 243-J	
R181	61079-917-561	R-CHIP;RH C2012 CS 561-J	
R182	61079-917-821	R-CHIP;RH C2012 CS 821-J	
SW151	B3020-0008	SW-MICRO;D2A-1210	
X151	B1283-0013	RESONATOR-CERAMIC;4.0MHZ FCR4.0MCTB 3/CN D	
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NO	1	2	3	4	5	6	7	8	9	10
ITEM / BUYER	A/V CABLE	8 mm VIDEO CASSETTE	LITHIUM BATTERY PACK	CABLE DC	UNIT REMOCON	BATTERY PACK	SHOULDER STRAP	NUIT-RF	JACK SCART	ADAPTER
AMF	63054-402-040	63174-600-030	64539-502-105	66449-0029-00	67173-0182-03	67223-0015-01	67853-600-270	-	A3040-0153	A7008-0039
ANA	63054-402-040	63174-600-030	64539-502-105	66449-0029-00	67173-0182-03	67223-0015-01	67853-600-270	-	A3040-0153	A7008-0039
DIN	63054-402-040	63174-600-030	64539-502-105	66449-0029-00	67173-0182-03	67223-0015-01	67853-600-270	-	A3040-0153	A7008-0039
EDI	63054-402-040	63174-600-030	64539-502-105	66449-0029-00	67173-0182-03	67223-0015-01	67853-600-270	-	A3040-0153	A7008-0039
ELE	63054-402-040	63174-600-030	64539-502-105	66449-0029-00	67173-0182-03	67223-0015-01	67853-600-270	-	A3040-0153	A7008-0039
ETR	63054-402-040	63174-600-030	64539-502-105	66449-0029-00	67173-0182-03	67223-0015-01	67853-600-270	-	A3040-0153	A7008-0039
EUR	63054-402-040	63174-600-030	64539-502-105	66449-0029-00	67173-0182-03	67223-0015-01	67853-600-270	-	A3040-0153	A7008-0039
HOS	63054-402-040	63174-600-030	64539-502-105	66449-0029-00	67173-0182-03	67223-0015-01	67853-600-270	-	A3040-0153	A7008-0039
JUMA	63054-402-040	63174-600-030	64539-502-105	66449-0029-00	67173-0182-03	67223-0015-01	67853-600-270	67179-0004-00	-	A7008-0039
NSI	63054-402-040	63174-600-030	64539-502-105	66449-0029-00	67173-0182-03	67223-0015-01	67853-600-270	-	A3040-0153	A7008-0039
RIE	63054-402-040	63174-600-030	64539-502-105	66449-0029-00	67173-0182-03	67223-0015-01	67853-600-270	-	A3040-0153	A7008-0039
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SEF	63054-402-040	63174-600-030	64539-502-105	66449-0029-00	67173-0182-03	67223-0015-01	67853-600-270	-	A3040-0153	A7008-0048
SEG	63054-402-040	63174-600-030	64539-502-105	66449-0029-00	67173-0182-03	67223-0015-01	67853-600-270	-	A3040-0153	A7008-0039
SEH	63054-402-040	63174-600-030	64539-502-105	66449-0029-00	67173-0182-03	67223-0015-01	67853-600-270	-	A3040-0153	A7008-0039
SEI	63054-402-040	63174-600-030	64539-502-105	66449-0029-00	67173-0182-03	67223-0015-01	67853-600-270	-	A3040-0153	A7008-0039
SEP	63054-402-040	63174-600-030	64539-502-105	66449-0029-00	67173-0182-03	67223-0015-01	67853-600-270	-	A3040-0153	A7008-0039
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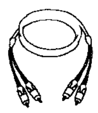	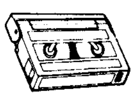	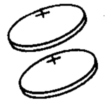	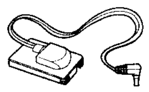	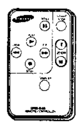	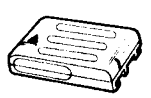	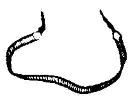	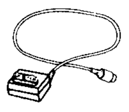	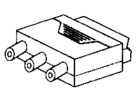	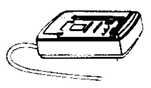

9. EXPLODED VIEW / PARTS LIST

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9-2. MECHANICAL PARTS (1) ----------------- 9-4

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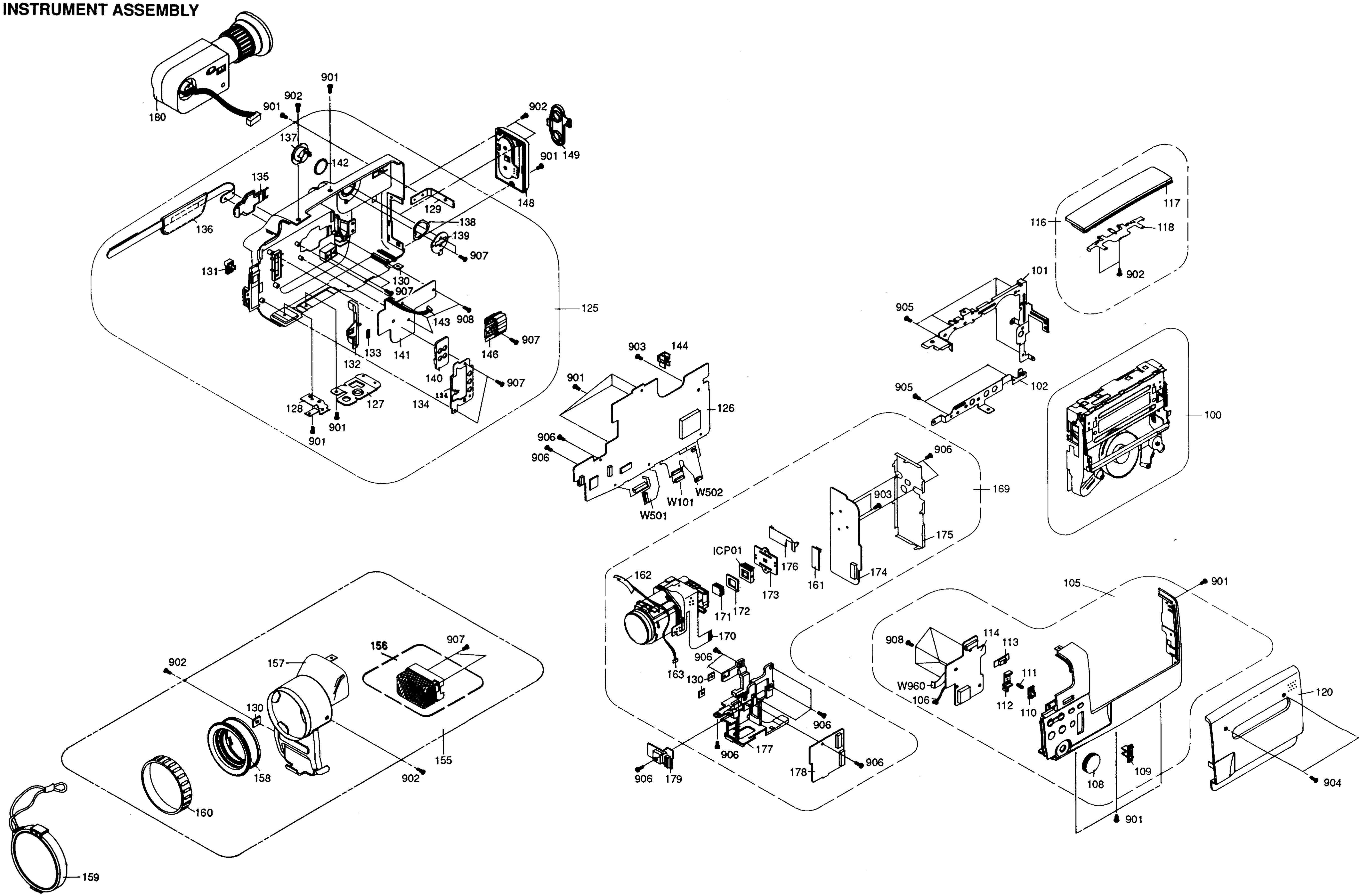
9-6. ADAPTOR ---------------------------- 9-8

9-1. INSTRUMENT ASSEMBLY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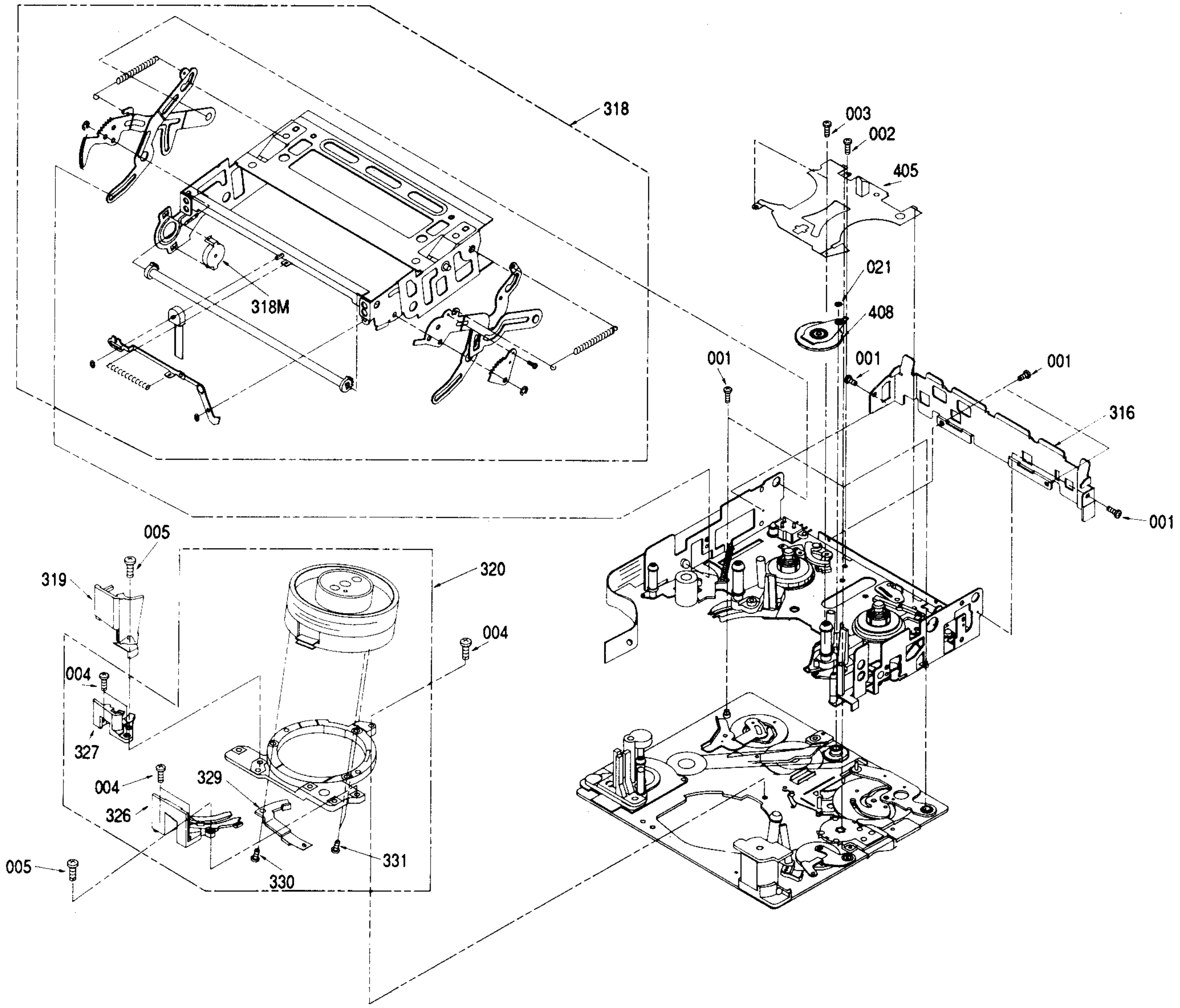
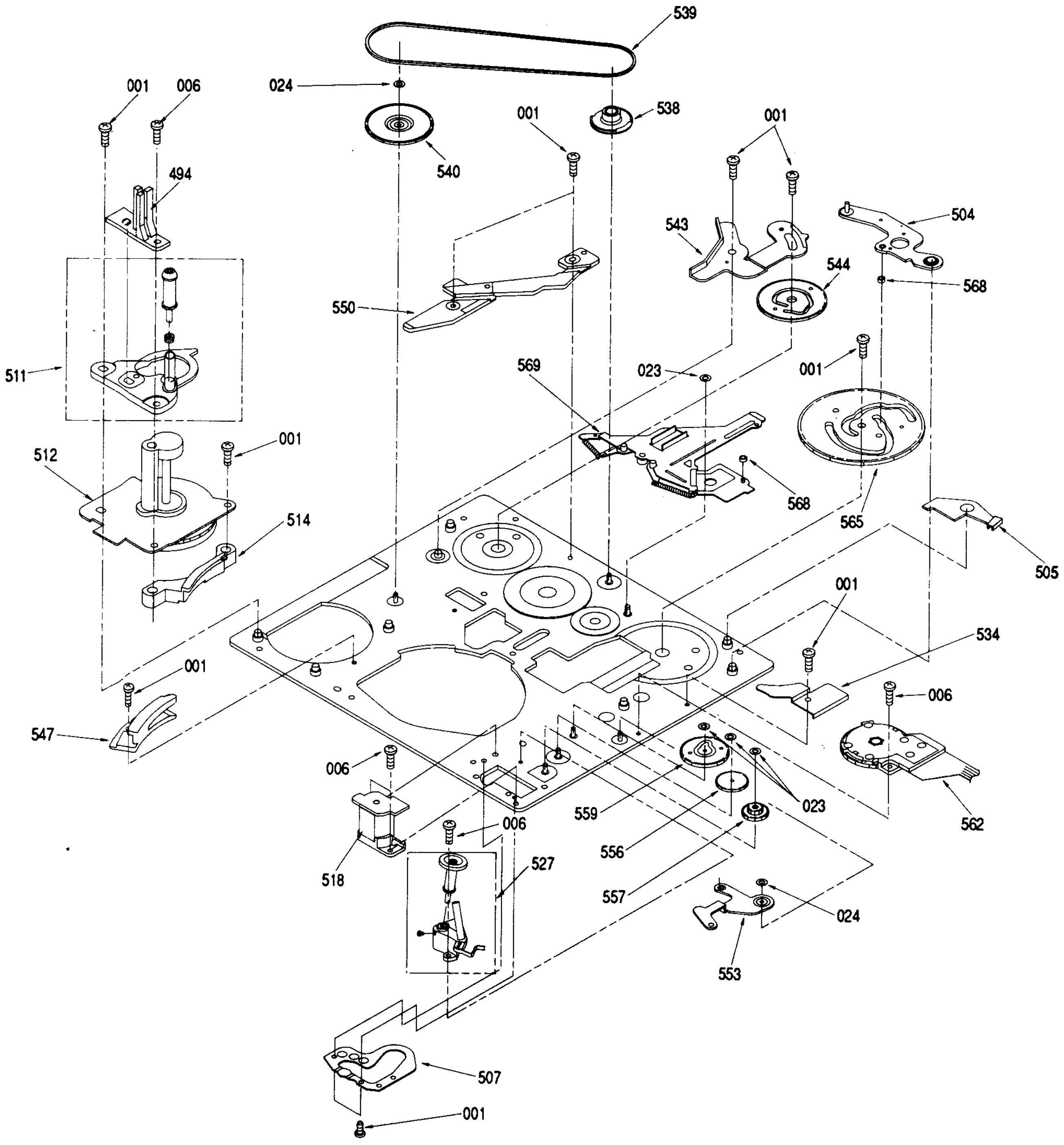
Loca.No	Part No	Description & Specification	Remark
100	DE-4JP	ASSY COMPACT DECK;8MM PI40 PAL	
101	63013-0212-00	BRACKET-DECK(B);STS3040CSP T0.5 VP-J52	
102	63013-0175-00	BRACKET-DECK	
105	69063-214-513	ASSY LEFT;VP-J52	
106	66439-0066-00	CONNECTOR WIRE(ASSY);51021-51021/3 1571#28 87MM	
108	64083-0363-00	KNOB-ROTARY;ABS94HB BLK	
109	64084-0361-00	KNOB-POWER;ABS94HB BLK	
110	62704-0001-00	SAFETY-POWER;POM RED	
111	66674-641-610	SPRING-KNOB POWER;SUS304 WPB	
112	63324-0252-00	HOLDER-POWER;POM WHT(NAT)	
113	64084-0362-00	KNOB-TAPE EJECT;ABS94HB BLK	
114	69063-214-374	ASSY FUNCTION BOARD;VP-J52 PAL	
116	69063-214-509	ASSY TOP;VN-J52 (SCX954)	
117	62033-0134-01	CASE-TOP;ABS94HB T1.5 BLK SCX954	
118	62724-0224-00	SPRING-TOP;PS STS301-CPH T0.2 W26 L65	
120	69063-214-514	ASSY COVER HOUSING;VP-J52	
125	69063-214-512	ASSY RIGHT;VP-J52	
126	69063-214-372	ASSY MAIN BOARD;VP-J52 PAL	
127	63014-0193-00	BRACKET-TRIPOD;SBHG 1 T1.2	
128	69063-214-270	ASSY-SHOULDER STRAP;VN-J50	
129	63014-0195-00	BRACKET-BACK;SBHG 1 T1.0	
130	63324-0292-00	HOLDER-LOCK;SECC NAT	
131	64084-0364-00	KNOB-BATTERY;ABS94HB BLK	
132	63323-0230-00	HOLDER-BATTERY;POM BLK	
133	66674-641-810	SPRING-KNOB EJECT;SUS304 WPB	
134	63014-0178-00	BRACKET-BATTERY;STS301-CP 1/2H T0.8	
135	63313-0136-00	COVER-BATTERY(LI);NYLON T1.5 BLK VN-J50	
136	67843-600-112	HAND-GRIP;VP-E807/BASIC(SAMSUNG)	
137	61644-0020-00	SLIDER-RING ROTATE EVF;POM T1 BLK(VN-E405)	
138	60104-0028-00	PLATE-SPRING EVF;C1720S T0.4 VN-E405	
139	63384-0025-00	STOPPER-EVF;SUS304 T0.8 WHT	
140	63314-0129-00	COVER-TERMINAL;ABS94HB T1.0 BLK	
141	69063-214-282	ASSY BATTERY TERMINAL;SV-J50	
142	63394-0053-00	RUBBER-RING EVF;SILICON BLK	
143	63053-916-578	LEAD CONNECTOR ASSY;1061 #28 1205-1205 5P 60MM	
144	64084-0391-00	KNOB-EDIT;ABS94HB BLK VN-J50	
146	64084-0367-00	KNOB-T/W;ABS94HB BLK	
148	69063-214-515	ASSY A/V JACK;VP-J50	
149	63313-0152-00	COVER-A/V JACK;TPE T1.0 BLK VP-J52	
155	69063-214-508	ASSY FRONT;VN-J52 (SCX954)	
156	69063-214-342	ASSY-MIC;VN-J50	
157	62032-0159-00	CASE-FRONT;ABS94HB T1.5 BLK	
158	60574-0020-00	RING-MANUAL;PC ID33.9 OD50.5 BLK T1.5	
159	69063-214-344	ASSY-CAP HOOD;VN-J50	
160	62024-0020-00	BAND-MANUAL RING;NBR T1.2 BLK	
161	69063-214-519	ASSY DELAY BOARD;PAL VP-J50	
162	69063-214-305	ASSY RING-FOCUS BOARD;VN-U12 NTSC	
163	66439-0021-00	CONNECTOR WIRE(ASSY);52021-CDP5904-4P 1571 #28 140	
169	CE-3-J52/P	ASSY-CAMERA;VP-J52 PAL	
170	62719-0039-00	LENS-ZOOM;I54G D27	
171	B1240-0046	FILTER-LC;LP 2M SV-511B(OLPF)	
172	63304-0016-00	SPACER-CCD;IIR D1.5 W12.5 L14 BLK	
173	63014-0191-00	BRACKET-CCD;SECC T1.2 (VN-U12)	
174	69063-214-381	ASSY PROCESS BOARD;VP-J52 PAL	
175	62073-0171-00	S/C-CAMERA TOP;SPTE T0.25 WHT VN-J50	
176	62073-0172-00	SHIELD-CASE CAMERA;SPTE T0.25 WHT VN-J50	
177	62212-0080-00	FRAME-LENS CAMERA(CHASA);ABS94HB T1.5 BLK VP-J52	
178	69063-214-382	ASSY AUTO BOARD;VP-J52 PAL	
179	69063-214-377	ASSY REMOCON BOARD;VP-J52 PAL	
180	*EE-3-J52/P	ASSY-EVF;VP-J52 PAL	
901	67094-120-240	SCREW-BH;M2X4 FE FZB	
902	67094-120-270	SCREW-BH;M2X7 FE FZB	
903	67094-604-310	SCREW-BH;3+M2X3 FE FZW	
904	A0100-0103	SCREW-MACHINE;BH UP M1.7 5 SWRCH10A SPC2 BLK	
905	60504-0017-00	SCREW;BH + FP M1.4 L2.2 S45C-HC BLK	
906	60504-0076-00	SCREW-TAP TITE;BH + 3S 1.7 L6 SWRCH18A BLK	
907	67128-520-206	SCREW-TAP TITE PLAIN;B+2X6 FE FZB	
908	67128-522-240	SCREW-TAP TITE BH;2X4 FE FZB	
ICP01	B4014-0053	IC-CCD;ICX055-AK DIP	
W101	66049-0107-00	FPC-R/T;FPC T0.2 SV-J50 73X31.3	
W501	66049-0109-00	FPC-MOTOR(CAP);FPC T0.2 SV-J50 44.4X40.2	
W502	66049-0110-00	FPC-MOTOR(DRUM);FPC T0.2 SV-J50 39X42.2	
W960	66049-0130-00	FPC-FUNCTION;35X14 VP-J52	

9-2. MECHANICAL PARTS (1)



Loca.No	Part No	Description & Specification	Remark
001	60504-0005-00	SCREW-BH;BH + M1.4 L2 WHT	
002	60504-0015-00	SCREW;BH + FP M1.4 L1.2 S45C-HC BLK	
003	60504-0017-00	SCREW;BH + FP M1.4 L2.2 S45C-HC BLK	
004	60504-0038-00	SCREW-MACHINE;BH B M1.7 L5 FE WHT	
005	60504-0039-00	SCREW-MACHINE;BH B M1.7 L8 FE WHT	
021	60534-0005-00	WASHER-SLIT;ID0.75 OD2.0 T0.2 POLYSLIDER	
316	63312-0011-01	COVER-BACK;A5052P 314H	
318	62051-0012-00	HOUSING-ASS'Y;STS304/STS303 T0.5 DE-4	
318M	62663-0014-00	DAMPER-HOUSING;SUS/POM/NYLON 30G DE-2A	
319	63353-0057-00	GUIDE-TAPE T;DURACON M90-02 NTR	
320	69063-214-360	ASSY-DRUM;DE-4UPN-SS	
326	63081-0011-00	RAIL-STOPPER L;ZDC12	
327	63082-0012-00	RAIL-STOPPER R;ZDC12	
329	66534-0006-00	CONTACT-EARTH BRUSH ASS'Y;SECC/PBSP/CR/C DE-4	
330	60509-0065-00	SCREW-MACHINE;BH UP M2 L7 SWRCH10A WHT WL	
405	63312-0005-00	COVER-REEL ASSY;SUS304-CSP T0.2+DURACON M90-02 BLK	
408	61603-0005-00	IDLER(ASSY);DE-4A	

9-3. MECHANICAL PARTS (2)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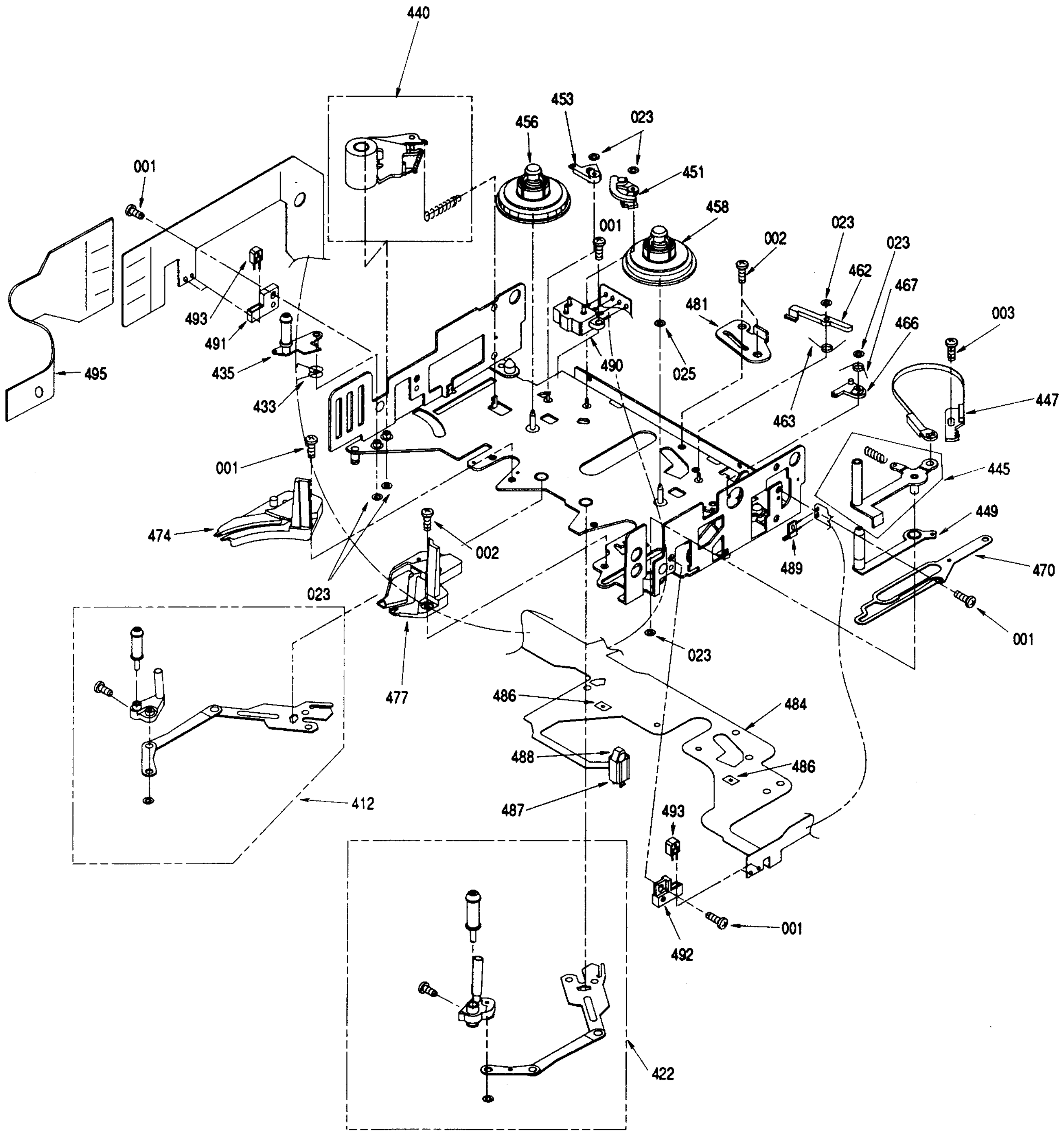
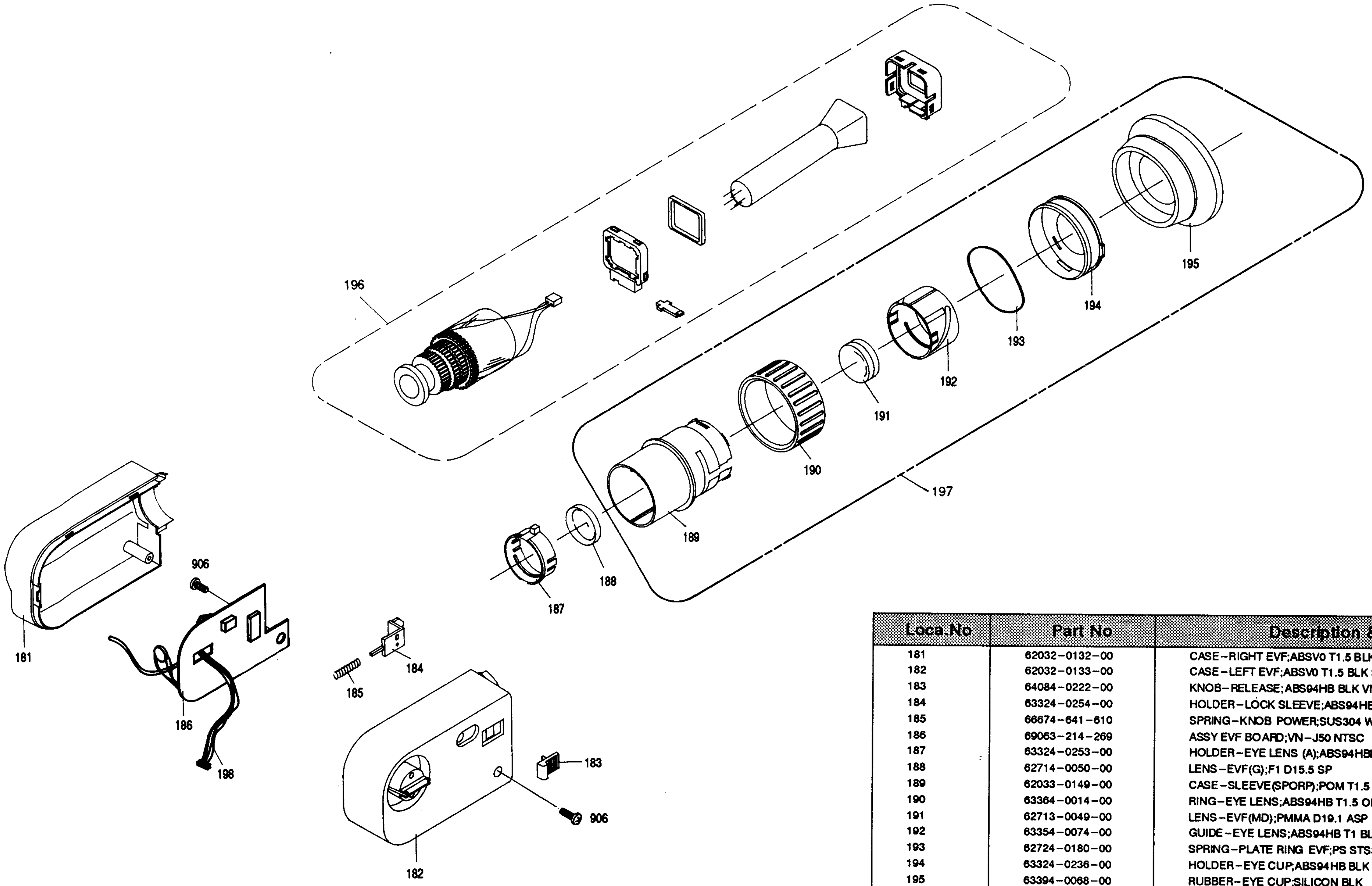
Loca.No	Part No	Description & Specification	Remark
001	60504-0005-00	SCREW-BH;BH + M1.4 L2 WHT	
006	60504-0016-00	SCREW;PH + FP M1.4 L3.5 S45C-HC BLK	
023	60534-0006-00	WASHER-SLIT;PI0.95 OD2.5 T0.25	
024	60534-0003-00	WASHER-SLIT;PI0.75 OD2.5 T0.2 POLYSLIDER	
494	63324-0246-00	HOLDER-FPC;PBT #3300	
504	61533-0058-00	LEVER-CAM ASS'Y;DE-4	
505	61534-0006-00	LEVER-EJECTOR;SUS304-CSP T0.3	
507	63013-0207-00	BRACKET-LOADING;SUS304-CP T0.3	
511	62202-0063-00	BASE-CAPSTAN ASS'Y;STS303/CS/STS304/WPB DE-4	
512	66823-0047-00	MOTOR-CAPSTAN;DE-4U	
514	63083-0014-00	RAIL-MIDDLE R;DURACON M90-02 NAT	
518	66823-0055-00	MOTOR-LOADING(ASSY);DE-4U	
527	63033-0028-00	POLE-BASE SUB IMP(ASSY);SUS+ZDC-2 NAT DE-4	
534	63354-0029-00	GUIDE-MODE SW;SUS304-CSP T0.3	
538	61473-0012-00	GEAR-PULLEY ASSY;DE-3	
539	61493-0006-00	BELT-TIMMING;L137 T0.4 POLYURETHAN	
540	61473-0010-00	GEAR-CAPSTAN ASSY;PA-SBK 1218	
543	61533-0051-00	LEVER-CAM P ASS'Y;DE-4	
544	61473-0009-01	GEAR-CAM PINCH;SUS304-CSP T0.8	
547	63083-0013-00	RAIL-MIDDLE L;DURACON M90-02 NAT	
550	63313-0030-00	COVER-TIME BELT;DURACON M90-02 NAT	
553	61534-0056-00	LEVER-CAM TENS ASS'Y;DE-4	
556	61474-0004-00	GEAR-LOADING B;BERIC	
557	61474-0078-00	GEAR-LOADING A;DURACON M90-02	
559	61473-0005-00	GEAR-CAM TENSION;BERIC	
562	66202-0012-01	SWITCH-MODE ASS'Y;SRZZOA083A DE-4U	
568	61524-0003-00	ROLLER-CAM MAIN;SUS303	
569	60102-0023-00	PLATE-SLIDER ASS'Y;DE-4	

9-4. MECHANICAL PARTS (3)



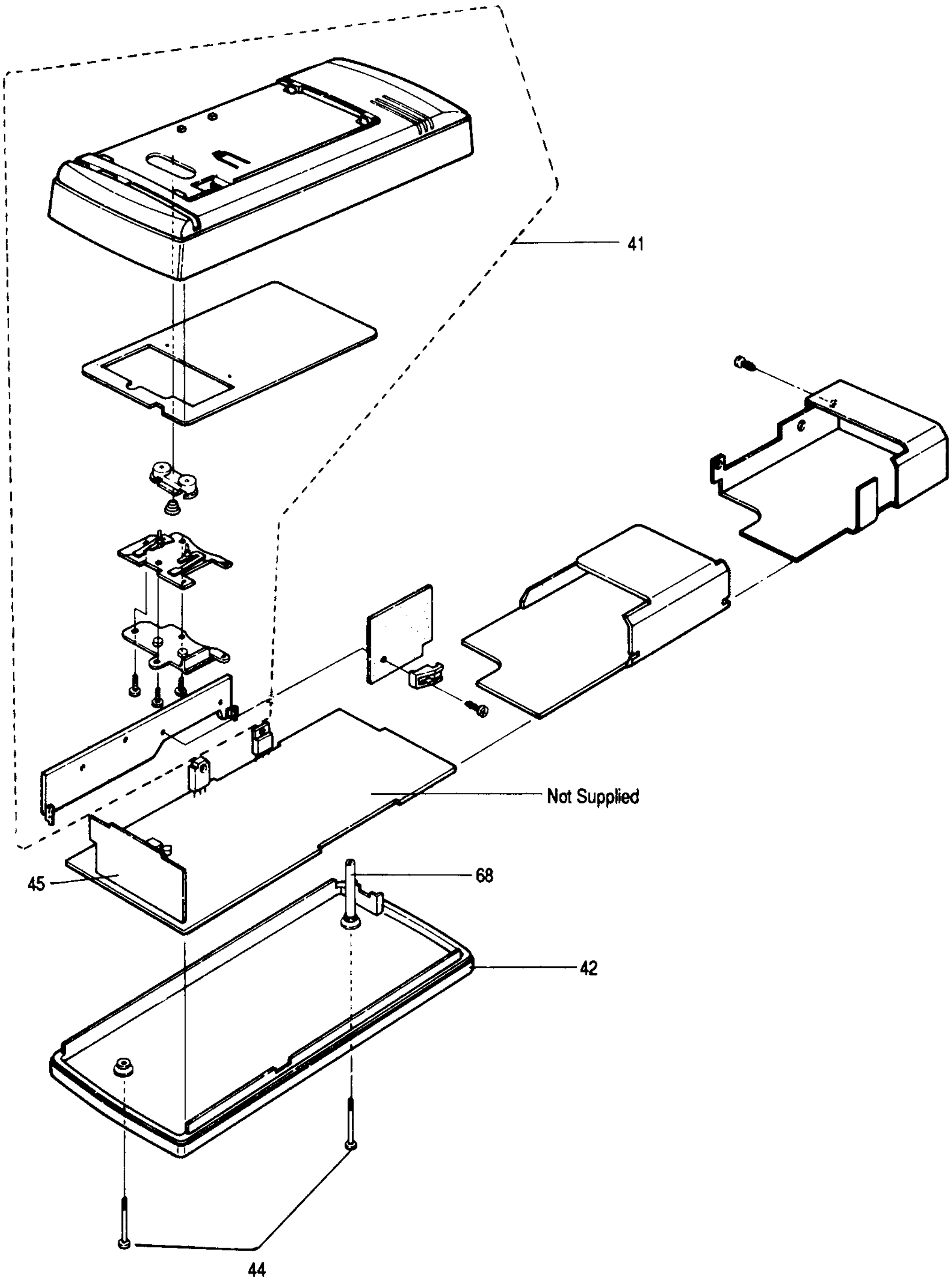
Loca.No	Part No	Description & Specification	Remark
001	60504-0005-00	SCREW-BH;BH + M1.4 L2 WHT	
002	60504-0015-00	SCREW;BH + FP M1.4 L1.2 S45C-HC BLK	
003	60504-0017-00	SCREW;BH + FP M1.4 L2.2 S45C-HC BLK	
023	60534-0006-00	WASHER-SLIT;PI0.95 OD2.5 T0.25	
025	60534-0023-00	WASHER-SLIT;ID2.6 OD5 T0.25 POLYSLIDER BLK	
412	61543-0066-00	ARM-POLE BASE T(ASSY);SUS+ZDC-2 T2.0 DE-4	
422	61543-0067-00	ARM-POLE BASE S(ASSY);SUS+ZDC-2 T2.6 DE-4	
433	62724-0099-00	SPRING-(T) REVIEW ARM;TS SUS304WPB PI0.26 D2.93	
435	61543-0059-00	ARM-REVIEW ASS'Y;STS303/STS304/CSP	
440	61543-0063-00	ARM-PINCH R ASS'Y(ASSY$_{\pi}$);DE-4A	
445	61543-0061-00	ARM-TENSION;STS303/STS304 T0.5 L43	
447	63324-0057-00	HOLDER-TEN BAND ASS'Y;DE-4	
449	61534-0068-00	LEVER-GUIDE ASS'Y;STS303/POM	
451	61543-0012-00	ARM-CLUTCH ASSY;DURACON M90-02	
453	61534-0059-00	LEVER-BRAKE T ASS'Y;DE-4	
456	61573-0020-00	REEL-T(ASSY);DE-4A	
458	61573-0019-00	REEL-S ASSY;DE-4A	
462	62614-0006-00	BRAKE-LEVER S;DURACON M90-02 NAT DE-4	
463	62724-0088-00	SPRING-LEVER BRAKE S;SUS304 WPB	
466	61543-0049-00	ARM-BRAKE S;DURACON M90-02 NAT	
467	62724-0087-00	SPRING-ARM BRAKE S;SUS304 WPB	
470	61643-0018-00	SLIDER-L.G;SUS304-CSP 0.4T	
474	63082-0010-00	RAIL-GUIDE T;DURACON M90-02(NAT)	
477	63081-0009-00	RAIL-GUIDE S;DURACON M90-02 NAT	
481	63334-0003-00	CLAMP-LOCKER SUB CHASSIS;SUS304-CSP T0.6	
484	69063-214-314	ASSY FPC SUB CHASSIS;DE-4U	
486	62599-099-033	SENSOR-REEL;TLP 907Y	
487	63324-0014-00	HOLDER-CASSETTE LED;DURACON M90-02(BLK)	
488	62309-112-045	LED-IR;GL453	
489	66209-0019-00	SWITCH-HOUSING;LSA-1112J2PT 15V 2MA	
490	66204-0018-00	SWITCH-DETECTOR;SPPW63	
491	63323-0016-00	HOLDER-END SENSOR;DURACON M90-02(BLK)	
492	63323-0015-00	HOLDER-START SENSOR;DURACON M90-02(BLK)	
493	66214-0014-00	SENSOR-TOP/END;PT4800F	
495	66044-0089-00	FPC-CONNECTION;FPC T0.2 DE-4U	

9-5. E.V.F



Loca.No	Part No	Description & Specification	Remark
181	62032-0132-00	CASE-RIGHT EVF;ABSV0 T1.5 BLK SCX854 D/GRY	
182	62032-0133-00	CASE-LEFT EVF;ABSV0 T1.5 BLK SCX854 D/GRY	
183	64084-0222-00	KNOB-RELEASE;ABS94HB BLK VN-E405	
184	63324-0254-00	HOLDER-LOCK SLEEVE;ABS94HB BLK	
185	66674-641-610	SPRING-KNOB POWER;SUS304 WPB	
186	69063-214-269	ASSY EVF BOARD;VN-J50 NTSC	
187	63324-0253-00	HOLDER-EYE LENS (A);ABS94HBBLK VN-J50	
188	62714-0050-00	LENS-EVF(G);F1 D15.5 SP	
189	62033-0149-00	CASE-SLEEVE(SPORP);POM T1.5 BLK VN-J50	
190	63364-0014-00	RING-EYE LENS;ABS94HB T1.5 OD24.6 L14	
191	62713-0049-00	LENS-EVF(MD);PMMA D19.1 ASP	
192	63354-0074-00	GUIDE-EYE LENS;ABS94HB T1 BLK VN-J50	
193	62724-0180-00	SPRING-PLATE RING EVF;PS STS301 T0.4 OD26 (VN-U10)	
194	63324-0236-00	HOLDER-EYE CUP;ABS94HB BLK (VN-U12)	
195	63394-0068-00	RUBBER-EYE CUP;SILICON BLK	
196	69063-214-386	ASSY-CRT;VN-J50(SPORTS)	
197	69063-214-516	ASSY LENS;VP-J50	
198	66439-0057-00	CONNECTOR WIRE(ASSY);51021-51021/4P 87MM	
906	60504-0076-00	SCREW-TAP TITE;BH + 3S 1.7 L6 SWRCH18A BLK	

9-6. ADAPTOR



Loca.No	Part No	Description & Specification	Remark
41	69063-213-495	ASSY CASE TOP;AA-E1P CASE TOP	
42	66032-603-110	CASE-BOTTOM;ABS 94V0	
44	60504-0053-00	SCREW-TAP TITE;PWH + TB M3 L25 SWRCH10A BLK	
45	69063-213-943	ASSY SUB 1 BOARD;AA-E1 NTSC/PAL	
68	67354-600-810	RING-GUIDE;ABS 94V0	

10. ADJUSTMENT

10-1. MECHANICAL ADJUSTMENT

10-1-1. Playback Tension Adjustment (See Fig. 1)

1. Remove Cover Housing, Holder-A/V & Case-Top, Case Front, Case-Left Ass'y. (See section 4-1-1, 4-1-2 and 4-1-3 on the page 4-1,4-2)
2. Supply DC 7.5V to Battery Terminal.

1) Set the Torque Cassette.
2) Set the Play mode, and confirm that Reel Disk S torque value is within 4.5 ± 1 g/cm.
3) If the torque value does not meet the specification, adjust the Tension Band.

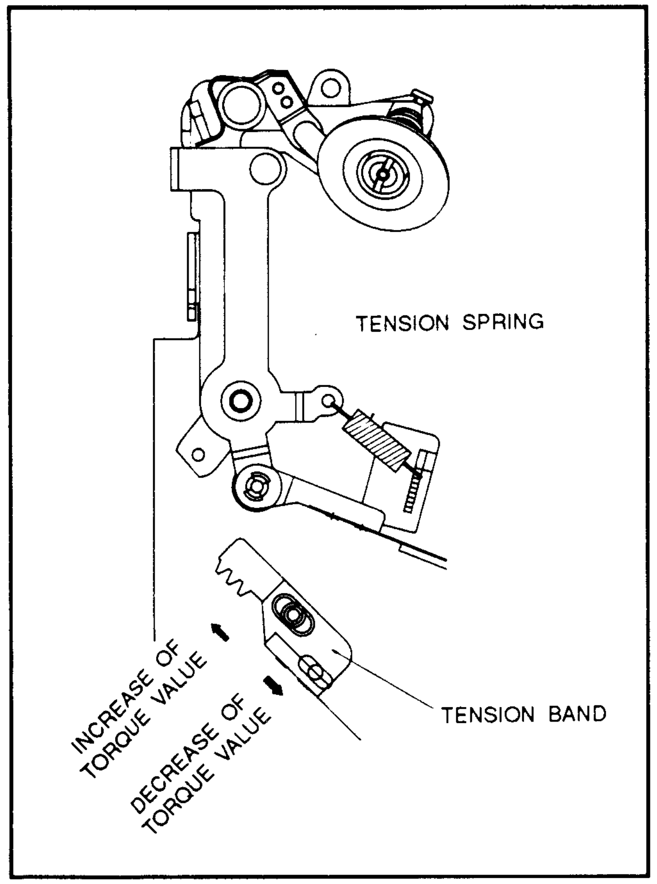

TENSION SPRING
INCREASE OF TORQUE VALUE
DECREASE OF TORQUE VALUE
TENSION BAND

Fig. 1 Playback Tension Adjustment

10-1-2. Reel Torque Check

1) Set the Torque Cassette.
2) Set the Play mode, and confirm that Reel Disk T torque value 10.5 ± 3.5 g/cm.
3) Set the RPS mode and confirm that Reel Disk S torque value is within 35 ± 5 g/cm.
4) If the torque value does not meet the specifications, replace the corresponding Reel Disk.

10-1-3. Tape Path Adjustment

1. Layout of Tape Transport Adjustment

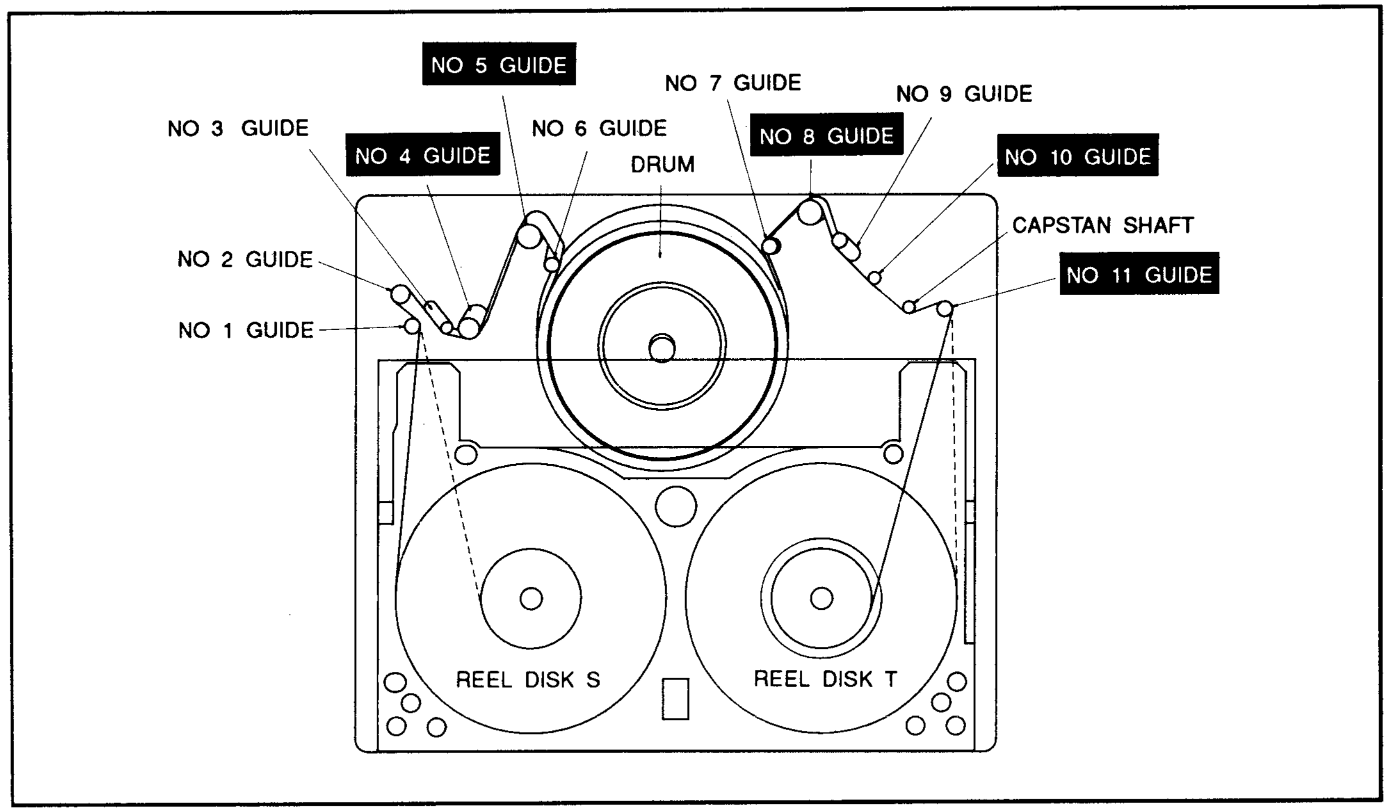

NO 5 GUIDE
NO 7 GUIDE
NO 9 GUIDE
NO 3 GUIDE
NO 6 GUIDE
NO 8 GUIDE
NO 4 GUIDE
DRUM
NO 10 GUIDE
CAPSTAN SHAFT
NO 2 GUIDE
NO 11 GUIDE
NO 1 GUIDE
REEL DISK S
REEL DISK T

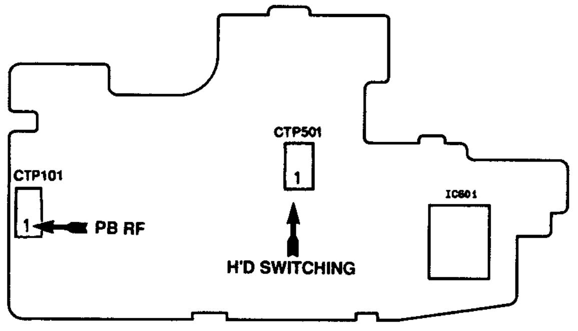
Fig. 2 Layout of Tape Transport Adjustment

Guide NO.	Component Name	Adjustment Purpose
NO. 1	Tension Pole	—
NO. 2	Roller Lever/G	—
NO. 3	Slant Pole SUB	—
NO. 4	Impedance Roller	Tape Height
NO. 5	Guide Roller "S"	Envelope
NO. 6	Pole Slant "S"	—
NO. 7	Pole Slant "T"	—
NO. 8	Guide Roller "T"	Envelope
NO. 9	Pole Slant CAP	—
NO. 10	Shaft Pole Guide	Tape Guide
NO. 11	Post Review Arm	Tape Wrinkle

2. Preparation for Adjustment

1) Clean tape path surfaces. (Guide Roller, Tape Guides, Drum) (See Fig. 2)
2) Connection of oscilloscope and output of waveform.

Test Point : Pin 1 of CTP101 (PB RF)
Pin 1 of CTP501 (H'D SW - Trigger)



(VCR Main PCB - Top Side)

3. Tracking Adjustment

1) Playback the alignment tape for tracking adjustment.
2) Confirm that both the entrance and exit side RF waveforms of oscilloscope are flat. (See Fig. 3) If they are not, adjust as follows. (Tracking fine adjustment)

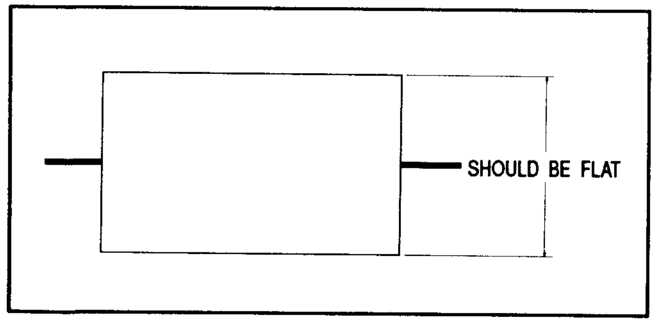


Fig. 3

4. Tracking fine Adjustment (See Fig. 4)

【1】Playback the alignment tape for tracking adjustment.

<Adjustment of Drum entrance side>

1) Confirm whether the waveform is flat or not.
2) If it shows like A : Adjust No. 5 Guide (Guide Roller S) clockwise to get the flat envelope waveform.
3) If it shows like B : Adjust No. 5 Guide counterclockwise to get the flat envelope waveform.

<Adjustment of Drum exit side>

1) Confirm whether the waveform is flat or not.
2) If it shows like C : Adjust No. 8 Guide (Guide Roller T) colckwise to get the flat envelope waveform.
3) If it shows like D : Adjust No. 8 Guide counterclockwise to get the flat envelope waveform.

【2】Reconfirm the envelope waveform.

1) After following step【1】reconfirm that envelope waveform has not changed.
2) If it's changed, please repeat step【1】.

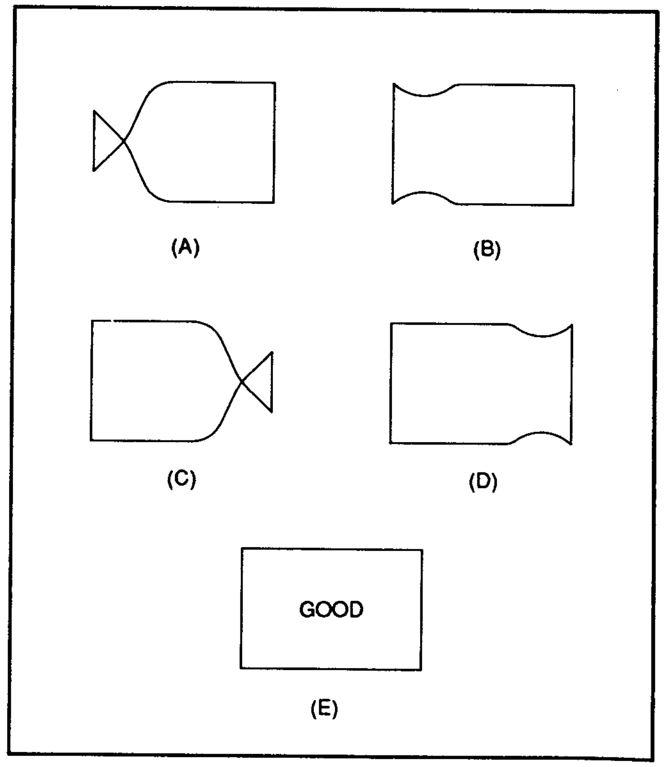


Fig. 4

5. Tape Guide Adjustment

【1】 No. 4 Guide Adjustment (See Fig. 5 and 6)

1) Playback the alignment tape.
2) Check that the tape is not bent at the Lower Flange.
3) Guide the tape to the Lower Flange.
4) CUE/RPS the tape, then Play it Back and confirm that the RF waveform rises flat within 2.5 seconds. (See Fig. 5)
5) If the waveform is not normal, repeat step 3) and 4) until a normal waveform is obtained.

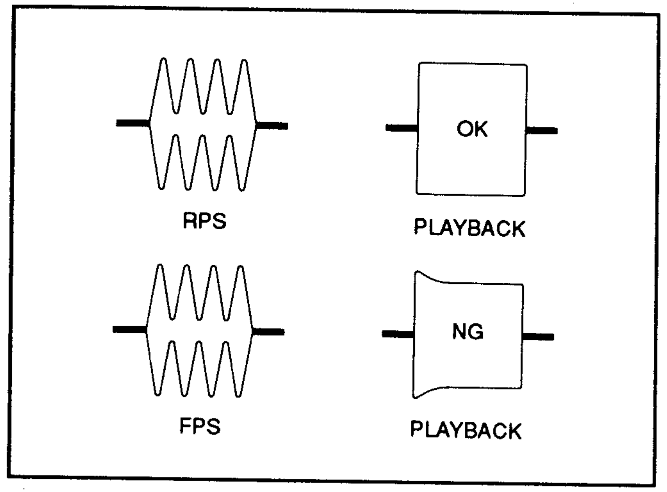


Fig. 5

【2】 No. 10 Guide Adjustment (See Fig. 6)

1) Playback the alignment tape and guide the tape to the Lower Flange.
2) CUE/RPS the tape, then Play it Back and confirm that the tape is not bent at the Flange, instead of check that RF waveform rises flat within 2.5 seconds in the PLAYBACK mode.
3) If the waveform is not normal, repeat steps 1) and 2) until a normal waveform is obtained.
4) If the tape is bent in the RPS mode, Adjust No. 11 Guide until the tape is straightened.

【3】 No. 11 Guide Adjustment (See Fig. 6)

1) Playback the alignment tape.
2) Check that the tape is not bent between No. 10 Guide and Capstan.
3) Set the Play mode again and confirm that the tape is not bent. If the tape is bent, repeat steps 1) and 2).

【4】 CUE and RPS Waveform Check (See Fig. 7)

1) Playback the alignment tape for tracking adjustment and set the RPS mode. Confirm that waveform peaks maintain a constant pitch for 5 seconds or more. In case pitch is not constant, perform section 4 tracking fine adjustment and section 5 tape guide adjustment. (No. 11 Guide)
2) Set the CUE mode and confirm that waveform peaks maintain a constant pitch for 5 seconds or more, otherwise, perform section 4 and section 5. (No. 4 Guide)

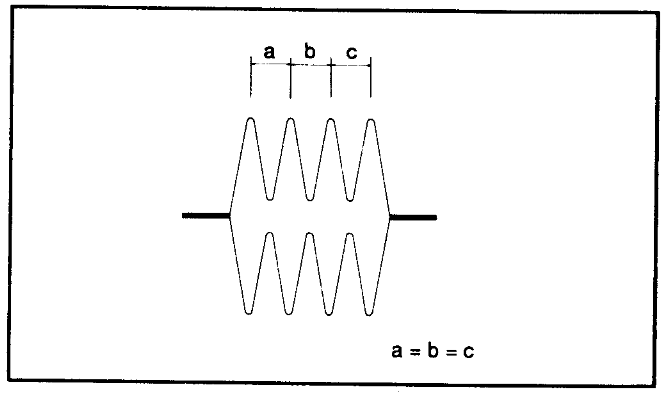


Fig. 7

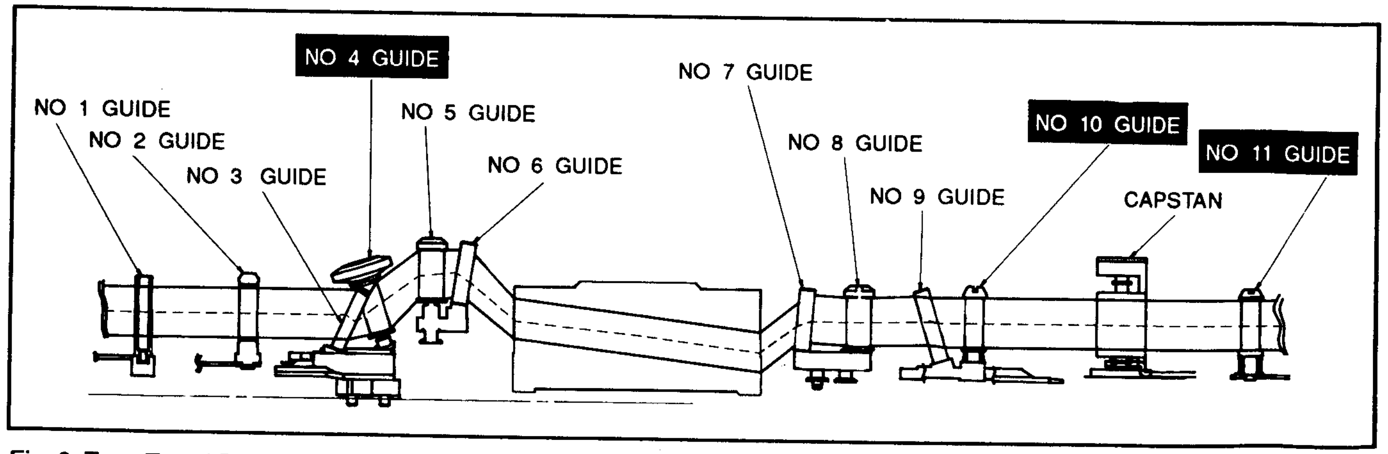


Fig. 6 Tape Travel Diagram

10-1-4. Check After Adjustment

1. Tape Path Check (See Fig. 6)

1) Playback a tape and confirm that no tape rising and curling occur at the Lower Flange of No. 4 Guide, the Upper Flange of No. 8 Guide, the Lower Flange of No. 10 Guide and the No. 11 Guide Upper and Lower Flanges.
2) In the FPS, RPS, FF, REW mode, check step 1 again.
3) If no tape rising and curling occur, repeat section 4 and 5 once more.

2. Envelope Stability Check

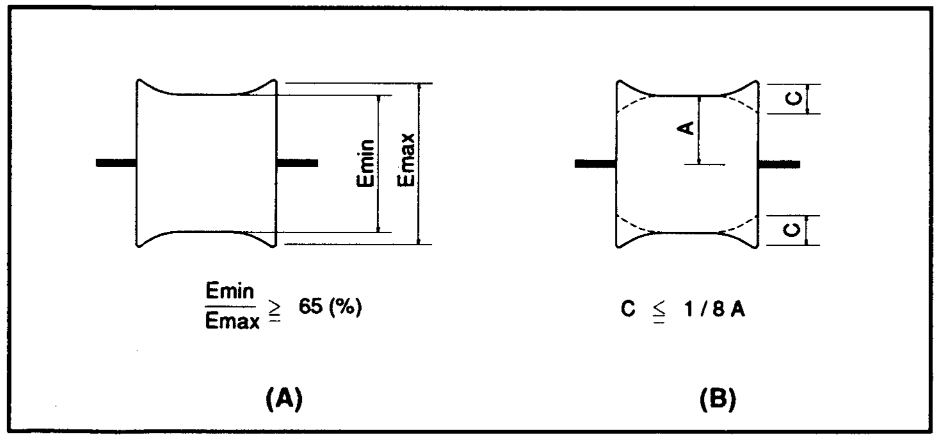
1) Playback the alignment tape.
2) Eject the tape, then load it again.
3) Confirm the envelope waveform.

*** STOP → PLAY ;**
Set the Play Back mode and confirm that RF waveform rises flat within 2.5 seconds, also confirm that the tape is not bent around the Pinch Roller.

*** FPS/RPS → PB, FF/REW → PB ;**
CUE/RPS and FF/REW the tape, then Play it Back and confirm that the RF waveform rises flat within 2.5 seconds also confirm that the tape is not bent around the Pinch Roller.

3. Tracking Check

1) Playback the alignment tape.
2) Then confirm that the minimum amplitude value (Emin) is 65% of the maximum value (Emax) or larger. (See Fig. 8 (A))
3) Confirm that no large fluctuations occur on the waveform. (See Fig. 8 (B))



$\frac{\text{Emin}}{\text{Emax}} \geq 65\ (\%)$

$C \leq 1/8\,A$

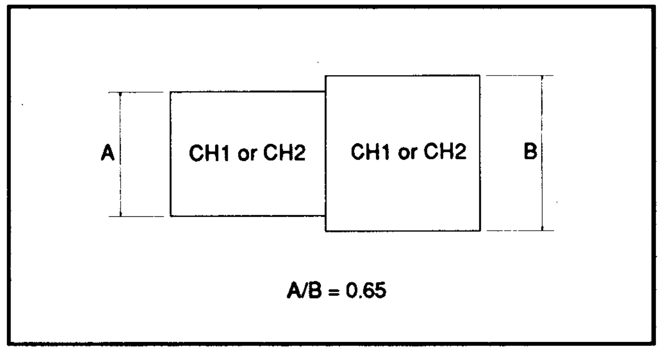
(A)

(B)

Fig. 8

4. Self-Recording Envelope-Waveform Check

1) After self-recording in the SP mode playback the tape and confirm that the RF waveform meets the specification. (See Fig. 9)
Also, check that the level of the amplitude value meets specification. (See Electronic specification)
2) In each mode, confirm that the difference of the amplitude (CH1 and CH2) is 65% or larger. (See Fig. 9)
If it does not meet specification, change Drum Ass'y to a new Drum Ass'y.



A/B = 0.65

Fig. 9

10-2. CAMERA SECTION ADJUSTMENT

NOTE

This CAMERA System has

- *** EVR (Electronic Variable Resistor) control method by D/A converter instead of VR control method.**
- *** EEPROM to store the confirmed adjustment data.**
- *** DSP (Digital Signal Process ; ICP06 - Process board) chip to process the signal of Camera parts.**
- *** One Test point for the frequency adjustment of DSP main clock (P. CLK).**
- *** The special mode for Camera adjustment using remote control card.**

Keep in mind ;

1. Readjustment is needed when the lens assembly is removed from CCD board.
   The reason is that shifting of zoom track or iris level occurs when the CCD board and lens assembly are reassembled after servicing.
2. Readjustment is needed when the EEPROM (ICA06 of AUTO Board) and zoom lens assembly are replaced.
   The reason is that EEPROM stores confirmed adjustment value of each adjustment step.
3. All adjustment steps of the camera section should be performed using the remote control card.

10-2-1. Preparations

1. Equipment to be used

1) DC Power supply
2) Oscilloscope
3) Frequency Counter
4) PAL vectorscope
5) PAL waveform monitor
6) PAL color monitor or TV
7) Various charts
   - Color bar chart
   - Gray-scale chart, etc ...
8) Alignment tape (Lion pattern)
9) Remote Control card (Part No. **67173-0182-03**)

2. Composition of Camera P.C.Boards

1) Process PCB
2) AUTO PCB
3) EVF PCB

3. Adjustment Preparations

- * Remote Control Card is used as a Camera Adjust Tool.
- * Press the confirm button when each manual adjustment step is completed to write the adjustment data to the EEPROM.
- * After each adjustment step is completed, OSD shows "OK!".
- * To cancel the adjustment mode, remove the power source.

4. Remote Control

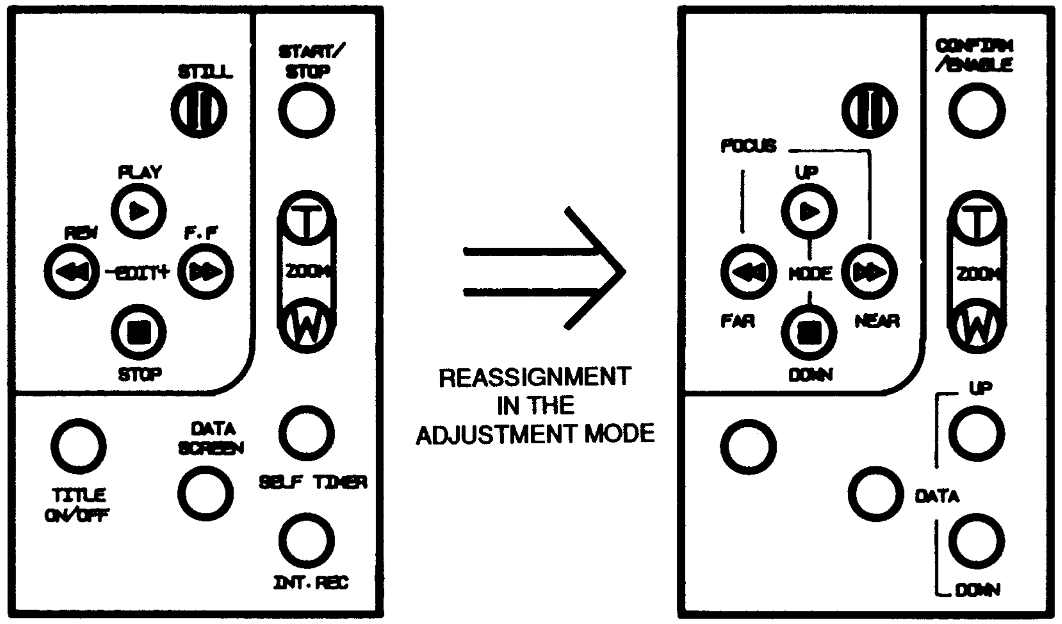
*The following is a chart explaining the use of each button :

USING BUTTON	ADJUSTMENT
CONFIRM	DATA stored after finishing adjustment by mode or enable to automatic adjustment mode.
DATA UP	When changing DATA value of adjust state.
DATA DOWN	
MODE UP	Mode change.
MODE DOWN	
NEAR	Focus adjustment.
FAR	
WIDE	Used for manual focus adjustment.
TELE	

This units accessory remote control is used to control the camcorder additionally, Card Remote Control (Parts No. 67173-0182-04) should be used for adjustment of the camera section.

Remote for Camcorder Adjust for Jig (Part No. : 67173-0182-04)

Figure of Button Placement when remote is used for Service Adjustments.



Note: In Service Adjustment mode, button names are different from those in customer camera function control mode.
EX) start/stop button is the same as Confirm/Enable.

5. How to get into service "ADJUST" mode.

STEP 1

1. Remove the lithium battery from the camcorder.
2. Connector the power source (battery/DC cable).
3. Eject the tape if it is in the unit.
4. Set the power switch of the camcorder to "CAM" position.
5. Press the "DISPLAY" button on camcorder until you have no on-screen information except "TAPE" indicator.

STEP 2

1. Press and hold "DATE" button on camcorder for more than 3 seconds, then it goes into "CLOCK SET" mode. One of the digits will blink. 0 : 00 1 / 1 /㉞
2. Press the "DISPLAY" button on the camcorder so "00" blinks on the screen. 0 :⓪⓪ 1 / 1 / 94
3. Rotate the PROGRAM AE knob on the camcorder until "HSS" shows on the screen.
4. Press and hold "■"(FADE) and "SET" button on the camcorder at the same time for more than 3 seconds. Then unit goes into service mode "ADJUST ?" blinks on the screen. This indicates that your ready to adjust any electronic variable resistors.

STEP 3

"ADJUST ?" will now be blinking at center of screen. Now press "START/STOP" button of remote control card.

On screen display shows "51 V-SR 00 00" CAMERA ADJUSTMENT mode has successfully been activated.

Note: When "XX XX" is shown in service adjustment procedures, this indicates variable values.

During Camera adjustment, the OSD displays the following abbreviations to indicate the selected mode.

Example) "51 V-SR 00 00"

Note: "DATA 1" is previous setting in memory, "DATA 2" is new adjustment setting, that changes during adjustment mode. After pressing "START/STOP", it goes to memory.

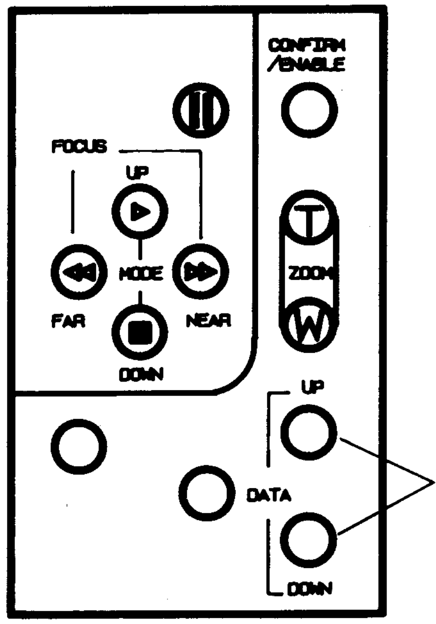
MODE	OSD	DATA 1	DATA 2	MEAN	REMARK
51	V-SR	00	00	VOLTAGE SUB/RESET-GATE	NOT USE
53	AGC	00	00	AGC ADJUST	AUTOMATIC
54	A-HL	00	00	HALL ADJUST	AUTOMATIC
55	AWB	00	00	AUTO WHITE BALANCE	AUTOMATIC
57	ALEN	00	00	LENS ADJUST	NOT USE
00	Y-R	90	90	Y GAMMA	FIXED
01	VSUB	66	66	VOLTAGE SUB	ADJUST
02	IRIS	05	05	IRIS CONTROL	ADJUST
05	V RG	66	66	VOLTAGE RESET-GATE	ADJUST
06	M-HL	9A	9A	HALL REF	CHANGE
08	LENS	00	00	ZOOM TRACK ADJUST	ADJUST
12	COV2	68	68	AUTO KNEE COEF. 2	FIXED
13	CAP	70	70	APERTURE GAIN CONTROL	FIXED
14	CCOA	21	21	COLOR SEPARATION COEF. 1	FIXED
15	CCOB	33	33	COLOR SEPARATION COEF. 2	FIXED
16	CAKP	D0	D0	AUTO KNEE POINT	FIXED
17	CNSL	01	01	NOISE SLICE LEVEL	FIXED
18	CAPS	10	10	EDGE CHROMA GAIN CONTROL	FIXED
19	CRCO	40	40	CCR GAIN CONTROL	FIXED
1A	CBCO	40	40	CCB GAIN CONTROL	FIXED
1B	CGCO	80	80	YL GAIN CONTROL	FIXED
1E	MRPW	40	40	R PRE WHITE BALANCE	FIXED
1F	MGPW	20	20	G PRE WHITE BALANCE	FIXED
20	MBPW	40	40	B PRE WHITE BALANCE	FIXED
21	MRWB	3A	3A	R WHITE BALANCE	ADJUST
22	MBWB	70	70	B WHITE BALANCE	ADJUST
23	MDSR	06	06	DARK SLICE LEVEL R	FIXED
24	MDSB	FE	FE	DARK SLICE LEVEL B	FIXED
25	MDSG	FB	FB	DARK SLICE LEVEL G	FIXED
26	MRHC	3A	3A	R HUE CONTROL	ADJUST
27	MBHC	2B	2B	B HUE CONTROL	ADJUST
28	MRYG	60	60	R-Y GAIN CONTROL	ADJUST
29	MBYG	3D	3D	B-Y GAIN CONTROL	ADJUST
45	EHBB	D7	D7	B-Y BURST PHASE CONTROL	FIXED
46	EHBR	27	27	R-Y BURST PHASE CONTROL	FIXED
47	ECFA	40	40	CHROMA FADE CONTROL	FIXED
48	EWCL	E0	E0	WHITE CLIP LEVEL	FIXED
49	EYFA	80	80	Y FADE CONTROL	FIXED
4A	ESET	02	02	Y SETUP LEVEL	FIXED
66	AETA	XX	XX	AUTO IRIS TARGET	CHANGE
68	AGMI	XX	XX	AGC MINIMUM	CHANGE
69	AGMA	XX	XX	AGC MAXIMUM	CHANGE
6A	AEBL	XX	XX	AE BLC	CHANGE

MODE	OSD	DATA 1	DATA 2	MEAN	REMARK
07		00	00	C GAMMA CONTROL	FIXED
2A		B3	B3	MATRIX COEFF. A1	FIXED
2B		4D	4D	MATRIX COEFF. B1	FIXED
2C		1C	1C	MATRIX COEFF. A2	FIXED
2D		E4	E4	MATRIX COEFF. B2	FIXED
2E		01	01	SUPERIMPOSE COMMAND	FIXED
4B		00	00	Y BLACK LEVEL	FIXED
4C		A0	A0	ENCODER COMMAND 1	FIXED
4D		04	04	ENCODER COMMAND 2	FIXED
4E		00	00	T.G COMMAND 1	FIXED
4F		00	00	T.G COMMAND 2	FIXED

Note: On table you see the "XX XX" for DATA 1 / DATA 2. "XX XX" means arbitary valuue.

Example of the TV screen

51	V-SR	00	00
		Data in memory	Data to be adjusted



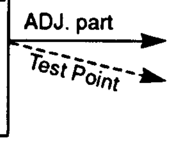
When adjusting, use UP/DOWN key.

10-2-2. Camera System Adjustment

NOTE

From now on, the structure of every adjustment is as follows.

STEP	ADJUSTMENT ITEM
	1. MODE and INPUT SIGNAL/ALIGNMENT TAPE 2. TEST POINT and ADJ. part 3. RESULT & REMARKS



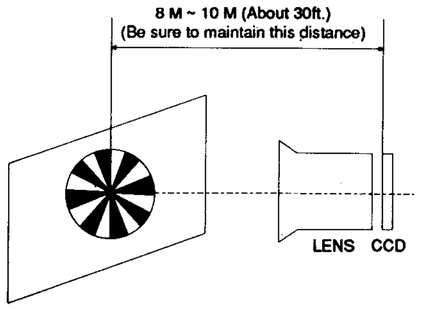
Note: The On-Screen Display Information.
"XX XX" means arbitary value.
It can be different number depend on the conditions.

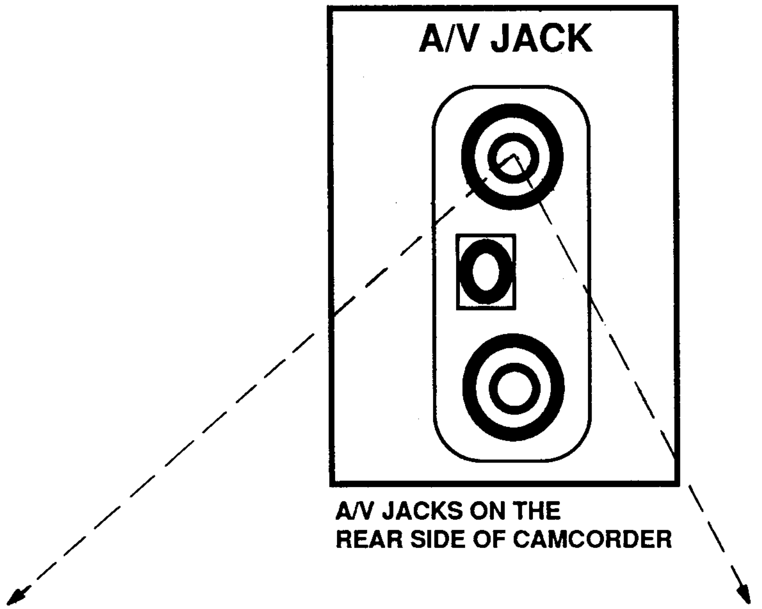
```
01   VSUB        XX    XX
```

1 FOCUS TO ZOOM TRACKING

Note : To maintain proper focus throughout the zoom range, the focus lens position must be changed as the zoom lens is moved. During this adjustment the microprocessor will measure the focus positioning requirements at the wide and telephoto position of the zoom lens.

1. CAMERA "E-E".
2. Focus Chart (Attached on the last page of this manual) & EVR.
3. 1) Aim the camera at the focus chart placed about 30ft. (8 to 10 meters) away and perpendicular to the center of the lens.
   The chart should be placed on the flat, gray or white wall.
   2) Connect monitor TV jack to video output jack.
   3) Press the "PLAY (MODE UP)" and "STOP (MODE DOWN)" buttons, so that the OSD state is "08 LENS XX XX".
   4) Focus Adjustment (There are two (2) ways to do the adjustment.)
      a. Full Auto : Press "START/STOP(CONFIRM)" button for full auto adjustment. The camera will move both zoom and focus lens. The adjustment is finished when the O.K message appears on the TV screen.
      b. Manual : Camera lens will be moved to all positions to set maximum focus setting.
      b-1. Press the "TELE" button to instruct the microprocessor to adjust the focus lens for optimum focus.
      b-2. Press the "START/STOP (CONFIRM)" button. The zoom lens should move to the tele zoom position.
      b-3. After the zoom lens reaches the Tele zoom position, repeat step **b-1**.
      b-4. Press the "START/STOP (CONFIRM)" button. The zoom lens should move to the middle zoom position.
      b-5. After the zoom lens reaches the middle zoom position, if focus state is not the optimum focus state, repeat step **b-1**, **b-2**, **b-3** and **b-4**.
      b-6. Press "START/STOP (CONFIRM)" button. The zoom lens should move to the wide zoom position, try to step **b-1**.
      b-7. Press "START/STOP (CONFIRM)" button to instruct the micro processor to write the focus lens position data to the EEPROM. The lens will move through the zoom range and then. The OSD will display "OK".



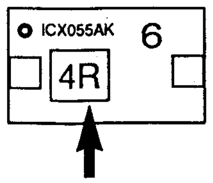


A/V JACKS ON THE
REAR SIDE OF CAMCORDER

2 V SUB

1. CAMERA "E-E", no signal input.
2. Video output jack & EVR.
3. * Connect monitor TV to video output jack.
   * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "01 VSUB XX XX".
   * V SUB specified voltage is indicated by one digit. (Rear of the CCD image sensor)
   * Adjust the "SELF TIMER (DATA UP)/INT.REC (DATA DOWN)" button so that the data is the specified HEX value.
   * Be sure to press the "START/STOP (CONFIRM)" button to memorize setting.

EXAMPLE



★ ICX055AK : CCD Device name
★ 4 : RG code address
★ R : V SUB voltage code address
R = 14.5V ---> 8B

(Rear of the CCD image sensor)

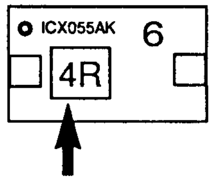
(Table for V SUB Voltage)

Digit	V SUB Voltage	HEX Value	Digit	V SUB Voltage	HEX Value	Digit	V SUB Voltage	HEX Value
E	9.0V	54	m	12.5V	77	U	16.0V	9A
f	9.5V	59	N	13.0V	7C	V	16.5V	9F
G	10.0V	5E	p	13.5V	81	W	17.0V	A5
h	10.5V	63	Q	14.0V	86	X	17.5V	AB
J	11.0V	68	R	14.5V	8B	Y	18.0V	B1
k	11.5V	6D	S	15.0V	90	Z	18.5V	BC
L	12.0	72	T	15.5	96	-	-	-

3 RG (Reset Gate)

1. CAMERA "E-E", no signal input.
2. Video output jack & EVR.
3. * Connect monitor TV to video output jack.
   * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "05 V RG XX XX".
   * RG code is indicated by one digit. (Rear of the CCD image sensor)
   * Adjust the "SELF TIMER (DATA UP)/INT.REC (DATA DOWN)" button so that the data is the specified HEX value.
   * Be sure to press the "START/STOP (CONFIRM)" button to memorize setting.

EXAMPLE



★ ICX055AK : CCD Device name
★ 4 : RG voltage code address
4 = 2.5V ---> 80

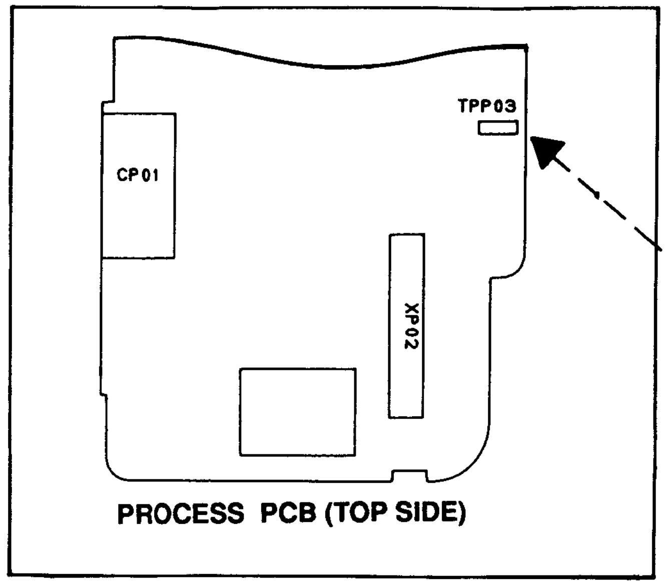
(Rear of the CCD image sensor)

(Table for RG Voltage)

DIGIT	1	2	3	4	5	6	7
V RG VOLT	1.0	1.5	2.0	2.5	3.0	3.5	4.0
HEX Value	32	4D	67	80	9B	B7	D0

4 P. CLK ADJUSTMENT

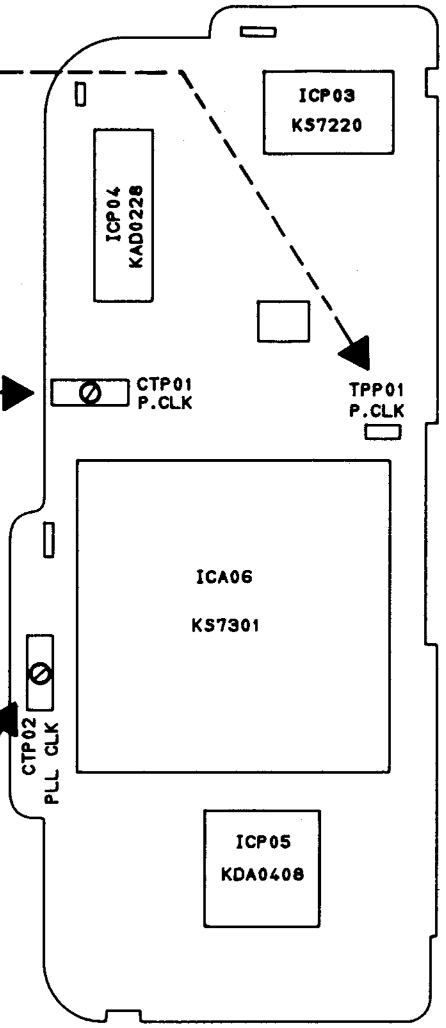
1. "CAMERA", no signal input.
2. TPP01 & CTP01.
3. * Connect a frequency counter to TPP01.
   * Adjust CTP01 for **9.453125MHz ± 50Hz**.



PROCESS PCB (TOP SIDE)

5 PLL ADJUSTMENT

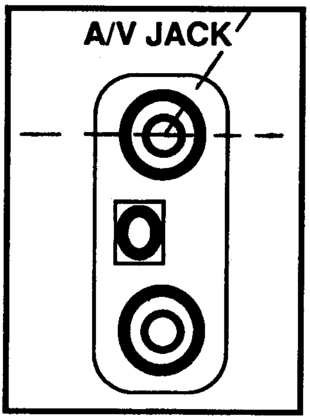
1. "CAMERA", no signal input.
2. TPP03 & CTP02.
3. * Connect a frequency counter to TPP03.
   * Adjust CTP02 for **D.C 2.5V + 0V / - 0.1V**.



PROCESS PCB (BOTTOM SIDE)

6 Y-GAMMA LEVEL

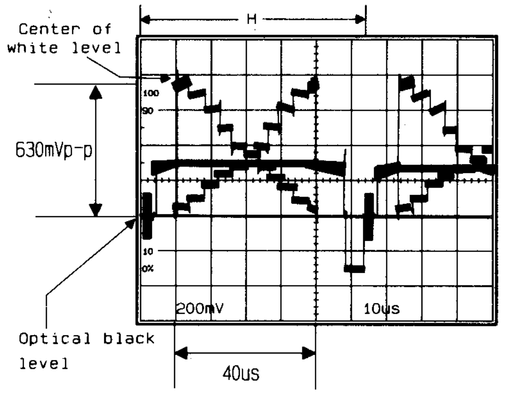
1. CAMERA "E-E", 3100°K gray-scale chart.
2. Video output jack & EVR.
3. * Connect monitor TV to video output jack.
   * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "00 Y-R XX XX".
   * Aim the camera at a gray-scale chart evenly illuminated at 1500 to 2000 lux. (40μs)
   * Adjust the "SELF TIMER (DATA UP)/INT.REC (DATA DOWN)" button so that the data is "9 0".
   * Be sure to press the "STSRT/STOP (CONFIRM)" button to memorize setting.
   * The OSD shows "OK".



A/V JACKS ON THE REAR SIDE OF CAMCORDER

7 IRIS LEVEL

1. CAMERA "E-E", 3100°K gray-scale chart.
2. Video output jack & EVR.
3. * Connect video output jack to waveform monitor input jack and monitor TV jack respectively.
   * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "02 IRIS XX XX".
   * Aim the camera at a gray-scale chart evenly illuminated at 1500 to 2000 lux. (40μs)
   * Adjust the "SELF TIMER (DATA UP)/INT.REC (DATA DOWN)" button so that Y level is **630mVp-p + 70/-35mV .**
   * Be sure to press the "START/STOP (CONFIRM)" button to memorize setting.
   * The OSD shows "OK".



8 AUTO HALL

1. CAMERA "E-E", no signal input.
2. Video output jack & EVR.
3. * Connect monitor TV to video output jack.
   * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "54 A-HL XX XX".
   * Press "START/STOP (CONFIRM)" button.
   * Then, the microprocessor will work.
     - IRIS closed, FINDS HALL minimum value,
     - IRIS open, FINDS HALL maximum value.
   * The OSD shows "OK".

9 AUTO AGC CONTROL

1. CAMERA "E-E", 3100° K gray-scale chart.
2. Video output jack & EVR.
3. * Connect monitor TV to video output jack.
   * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "53 AGC XX XX".
   * Aim the camera at a gray-scale chart evenly illuminated at 1500 to 2000 lux. (40μs)
   * Press "START/STOP(CONFIRM)" button.
   * Then, the microprocessor will work.
     - FIND AGC minimum point data.
     - FIND AGC maximum point data.
     - FIND AGC start point data.
   * The OSD shows "OK".

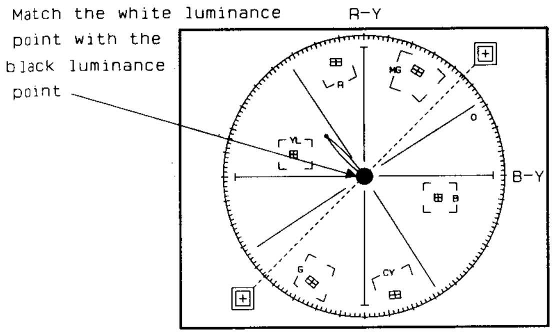
10 AUTO WHITE

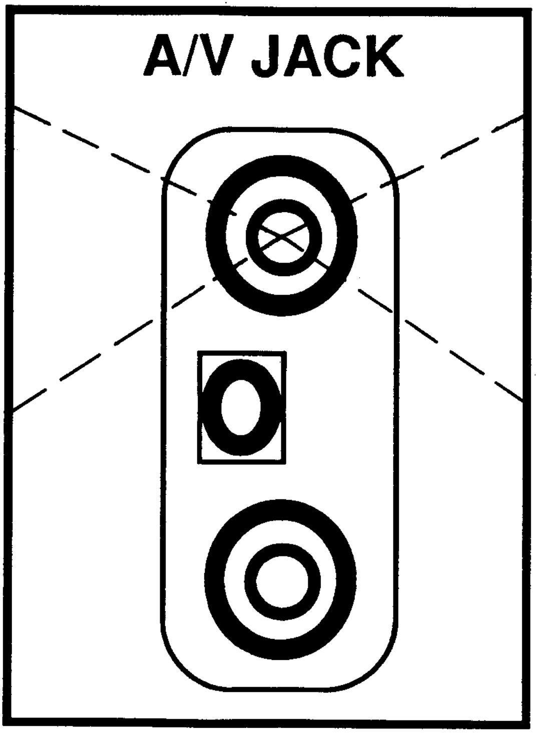
1. CAMERA "E-E", 3100° K/5100° K gray-scale chart.
2. Video output jack & EVR.
3. * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "55 AWB XX XX".
   * Connect vectorscope input jack to video output jack.

   1) W/B INDOOR
      - Aim the camera at a 3100° K gray-scale chart illuminated at 1500 to 2000 lux. (40μs)
      - Press "START/STOP (CONFIRM)" button so that the white vector moves to the center on screen of the vectorscope.

   2) W/B OUTDOOR
      - Aim the camera at a 5100° K gray-scale chart illuminated at 1500 to 2000 lux. (40μs)
      - Press "START/STOP (CONFIRM)" button so that the white vector moves to the center on screen of the vectorscope.

   * The OSD shows "OK".

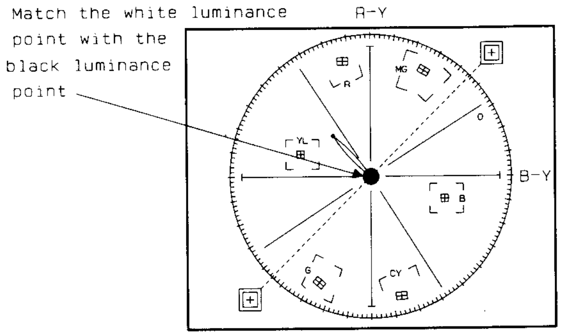

Match the white luminance point with the black luminance point
R-Y
B-Y



A/V JACKS ON THE REAR SIDE OF CAMCORDER

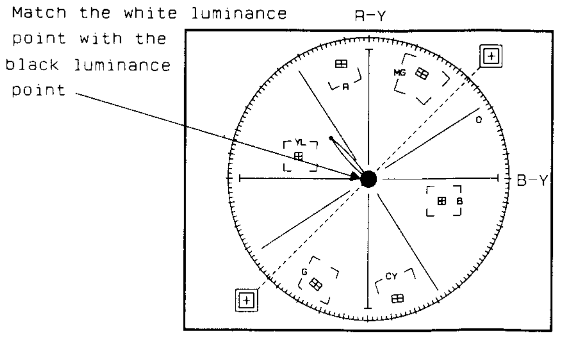
11 PRE WHITE BALANCE (I)

1. CAMERA "E-E", 3100° K gray-scale chart.
2. Video output jack & EVR.
3. * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "21 MRWB XX XX".
   * Connect vectorscope input jack to video output jack.
   * Aim the camera at a color chart illuminated at 1500 to 2000 lux.
   * Use the "SELF TIMER(Data up), INT.REC (Data down), START/STOP(CONFIRM)" button so that the white vector moves to the center on screen of the vectorscope.
   * The OSD shows "OK".


Match the white luminance point with the black luminance point
R-Y
B-Y

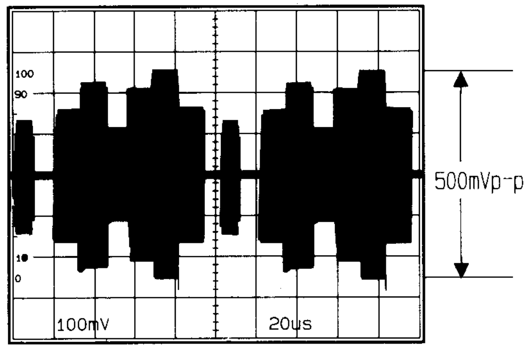
12 PRE WHITE BALANCE (II)

1. CAMERA "E-E", 3100° K gray-scale chart.
2. Video output jack & EVR.
3. * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "22 MBWB XX XX".
   * Connect vectorscope input jack to video output jack.
   * Aim the camera at a color chart illuminated at 1500 to 2000 lux.
   * Use the "SELF TIMER(Data up), INT.REC (Data down), START/STOP(CONFIRM)" button so that the white vector moves to the center on screen of the vectorscope.
   * The OSD shows "OK".


Match the white luminance point with the black luminance point
R-Y
B-Y

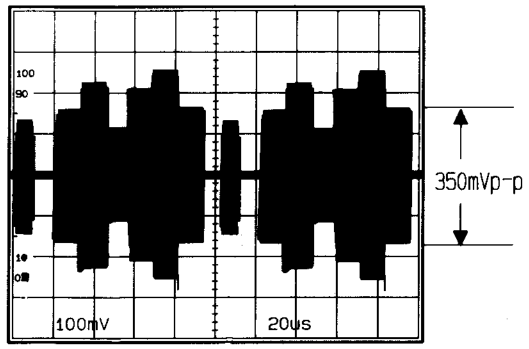
13 R-Y GAIN

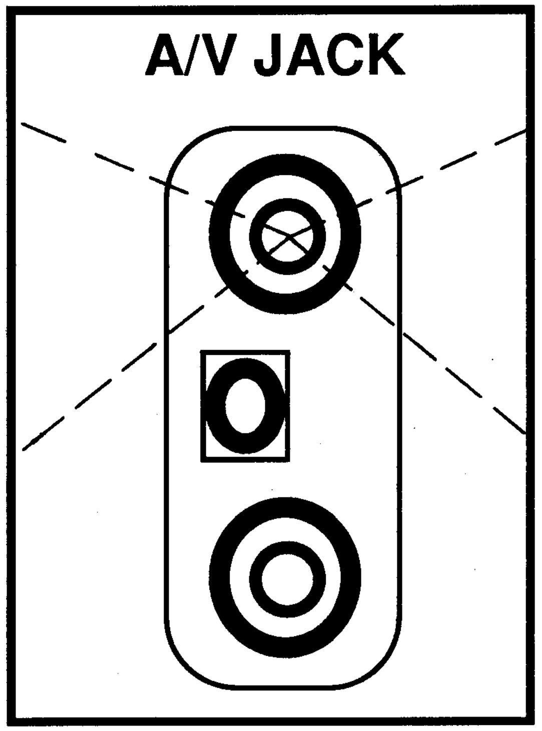
1. CAMERA "E-E", 3100° K color bar chart.
2. Video output jack & Register of EEPROM.
3. * Connect video output jack to waveform monitor input jack and monitor TV jack respectively.
   * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "28 MRYG XX XX".
   * Aim the camera at a color bar chart illuminated at 1500 to 2000 lux.
   * Adjust the "SELF TIMER (DATA UP)/INT.REC (DATA DOWN)" button so that the Red level is **500mVp-p± 35mV.**
   * Be sure to press the "START/STOP (CONFIRM)" button to memorize setting.
   * The OSD shows "OK".



14 B-Y GAIN

1. CAMERA "E-E", 3100° K color bar chart.
2. Video output jack & Register of EEPROM.
3. * Connect video output jack to waveform monitor input jack and monitor TV jack respectively.
   * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "29 MBYG XX XX".
   * Aim the camera at a color bar chart illuminated at 1500 to 2000 lux.
   * Adjust the "SELF TIMER (DATA UP)/INT.REC (DATA DOWN)" button so that the Blue level is **350mVp-p± 35mV.**
   * Be sure to press the "START/STOP (CONFIRM)" button to memorize setting.
   * The OSD shows "OK".

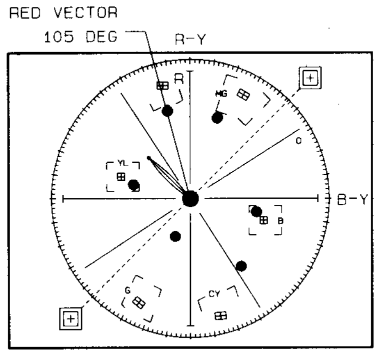




A/V JACKS ON THE REAR SIDE OF CAMCORDER

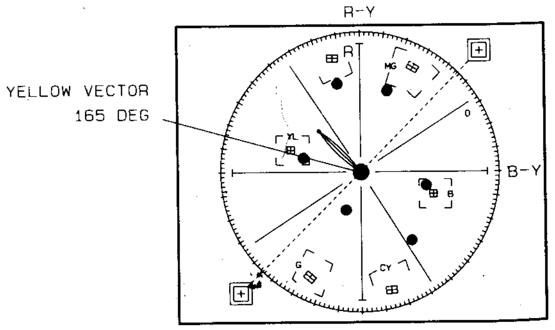
15 R-Y HUE

1. CAMERA "E-E", 3100° K color bar chart.
2. Video output jack & Register of EEPROM.
3. * Connect video output jack to vectorscope input jack and monitor TV jack respectively.
   * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "26 MRHC XX XX".
   * Aim the camera at a color bar chart illuminated at 1500 to 2000 lux.
   * Adjust the "SELF TIMER (DATA UP)/INT.REC (DATA DOWN)" button so that the Red vector **105 ± 15 deg.**
   * Be sure to press the "START/STOP (CONFIRM)" button to memorize setting.
   * The OSD shows "OK".



16 B-Y HUE

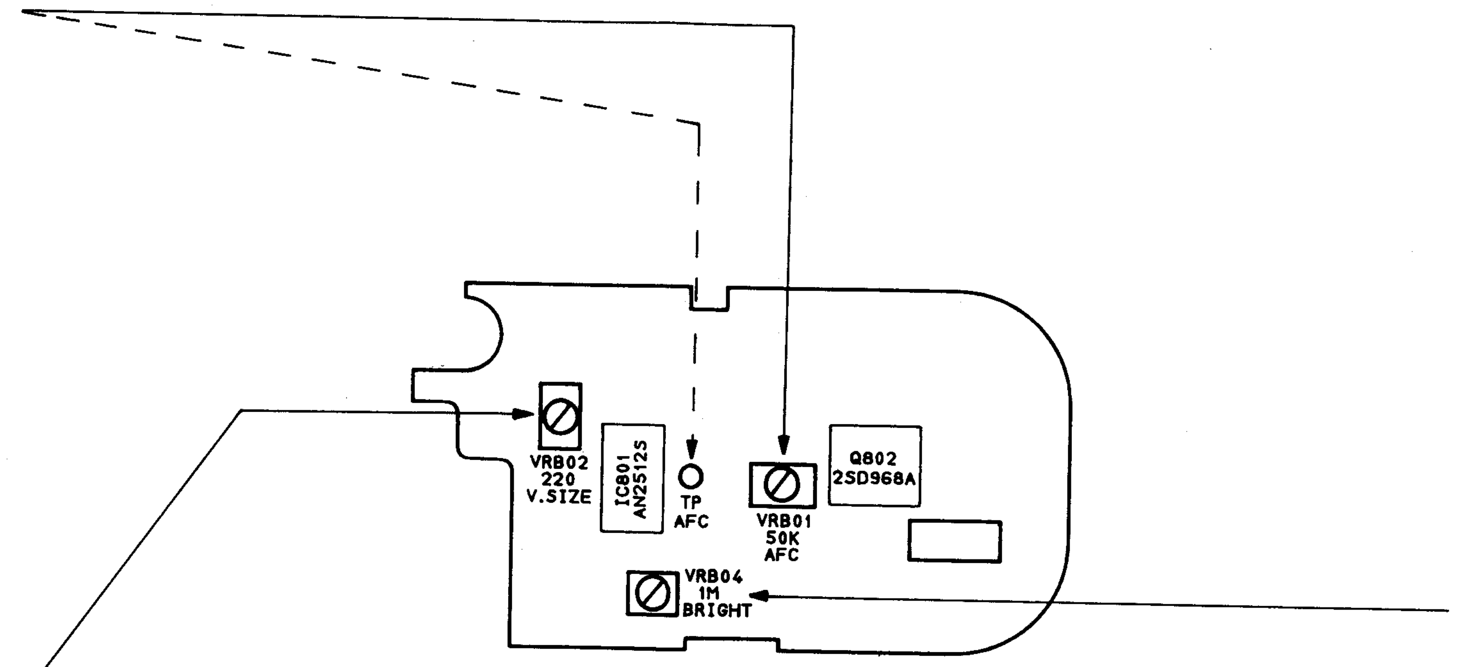
1. CAMERA "E-E", 3100° K color bar chart.
2. Video output jack & Register of EEPROM.
3. * Connect video output jack to vectorscope input jack and monitor TV jack respectively.
   * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "27 MBHC XX XX".
   * Aim the camera at a color bar chart illuminated at 1500 to 2000 lux.
   * Adjust the "SELF TIMER (DATA UP)/INT.REC (DATA DOWN)" button so that the Yellow vector **165 ± 15 deg.**
   * Be sure to press the "START/STOP (CONFIRM)" button to memorize setting.
   * The OSD shows "OK".



10-2-3. EVF Adjustment

1 | AFC

1. VCR "PB", Alignment tape (Lion pattern).
2. TP AFC & VRB01.
3. * Connect digital voltmeter probe to TP AFC.
   * Adjust VRB01 so that the voltage is DC 2.7V.


VRB02
220
V.SIZE
IC801
AN2512S
TP
AFC
VRB01
50K
AFC
Q802
2SD968A
VRB04
1M
BRIGHT

E.V.F PCB (BOTTOM SIDE)

2 | V. SIZE

1. VCR "PB", Alignment tape (Lion pattern).
2. Viewfinder & VRB02.
3. * Adjust the VRB02 so that the center circle on the lion pattern is perfect circle.

3 | BRIGHT

1. VCR "PB", Alignment tape (Lion pattern).
2. Viewfinder & VRB04.
3. * Adjust the VRB04 so that the 3rd and 4th steps of the lion pattern can be distinguished.

10-3. VCR SECTION ADJUSTMENT

10-3-1. Preparations

Note : Before preforming all VCR section adjustment, insert TP Board into CTP101 of Main PCB. (See Fig. 3)

Use the following measuring instruments for adjustment of the VCR block.

1. Equipment to be used

1) Monitor TV
2) Dual trace oscilloscope of over 20MHz band, incorporates delay mode. (Use 10 : 1 probe unless otherwise specified)
3) Frequency counter
4) Pattern generator with video output terminal
5) Digital voltmeter
6) DC power supply
7) Alignment tape (Color Bar : SP)

2. Composition of VCR P.C.Boards

1) Main PCB (System Control/Servo, Video, Audio, DC/DC Converter)
2) Battery Terminal PCB
3) MIC PCB
4) Function PCB

3. Connection of equipment

Unless otherwise specified, adjustment is made with the measuring instrument connected as shown in the diagram below.

- CAM/VCR power switch . . . . . VCR position

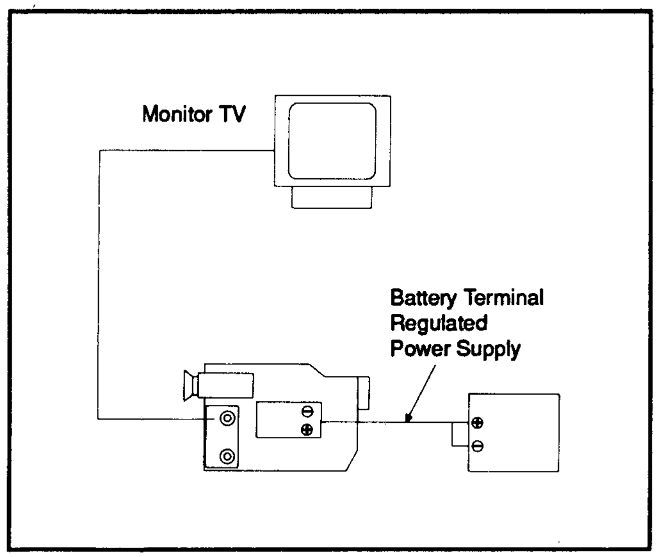

Monitor TV
Battery Terminal
Regulated
Power Supply

Fig. 1

4. Set-up during adjustment

Since the video output signal obtained from the pattern generator is used as the adjusting signal for the VCR block, it is necessary that this video output signal be within the required specifications. Connect an oscilloscope to video input jack and make sure that the amplitude of the video SYNC signal is approximately 0.3V, that the video block amplitude is approximately 0.7V, that the burst signal amplitude is approximately 0.3V with flat characteristics, and the signal level ratio between the burst signal and "Red" signal is 0.30 : 0.66. The video signal (color bars) used for VCR block electrical adjustment are shown in Fig. 2.

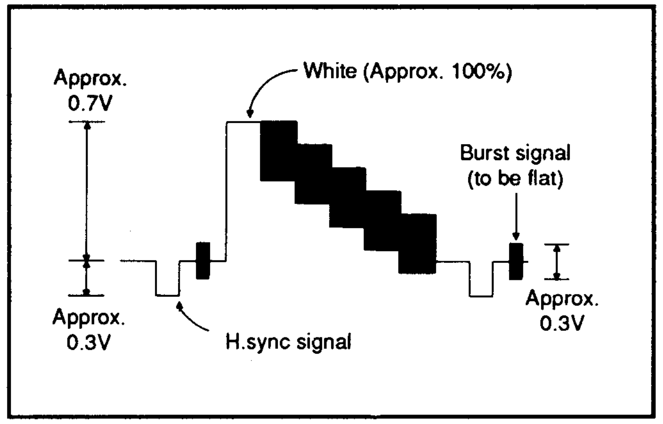

Approx.
0.7V
White (Approx. 100%)
Burst signal
(to be flat)
Approx.
0.3V
H.sync signal
Approx.
0.3V

Fig. 2 Color bar signal of pattern generator

5. How to connect VCR adjustment jig

1) Insert TP Board into CTP101 of Main PCB.
2) Connect Video Signal Input Cable between V-IN connector and video out of Pattern Generator to input video signal from Pattern Generator to TP Board as shown below.

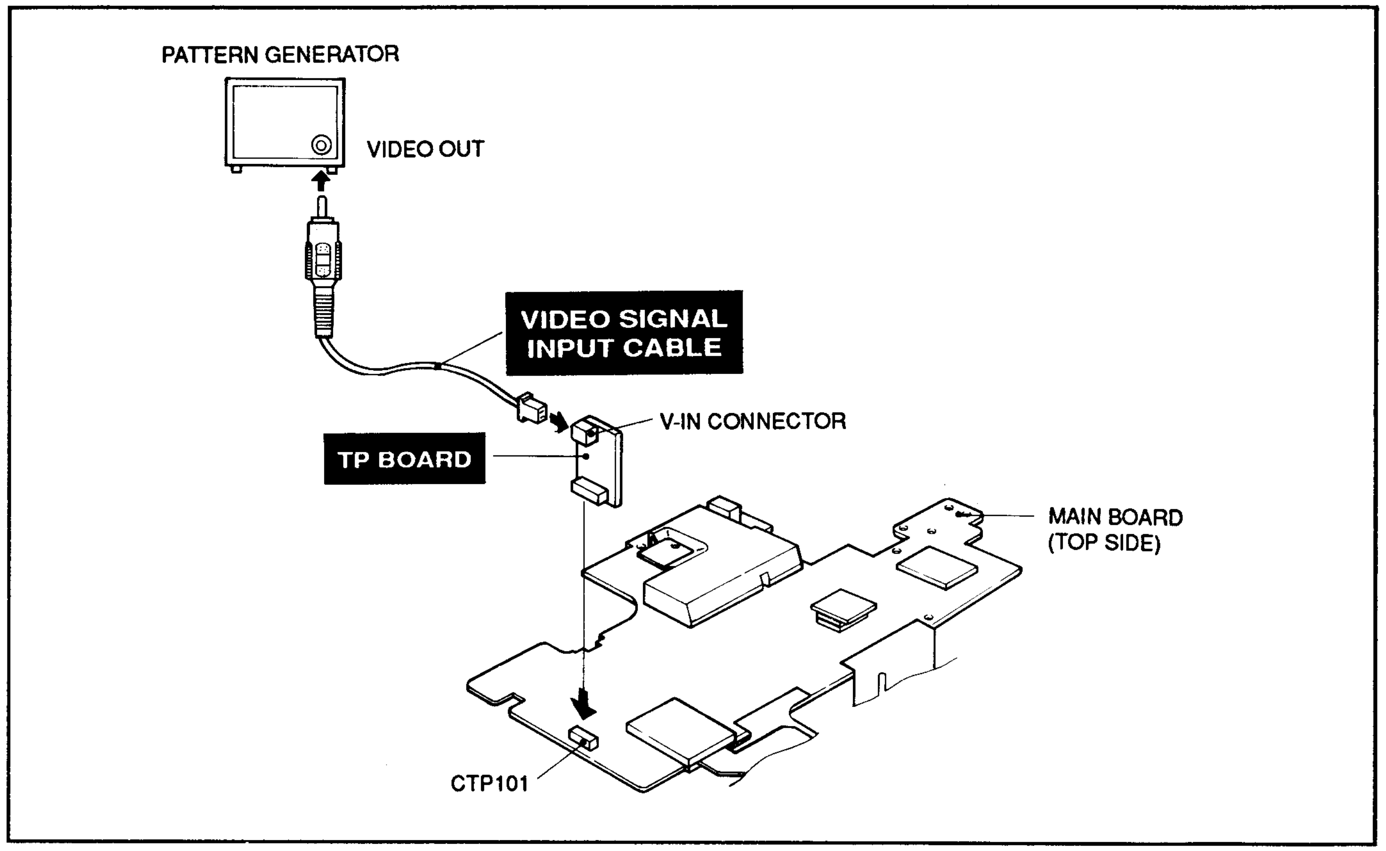
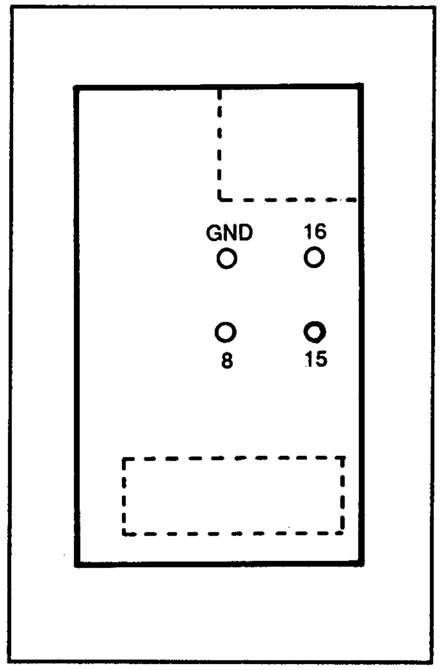

PATTERN GENERATOR
VIDEO OUT
VIDEO SIGNAL
INPUT CABLE
V-IN CONNECTOR
TP BOARD
MAIN BOARD
(TOP SIDE)
CTP101

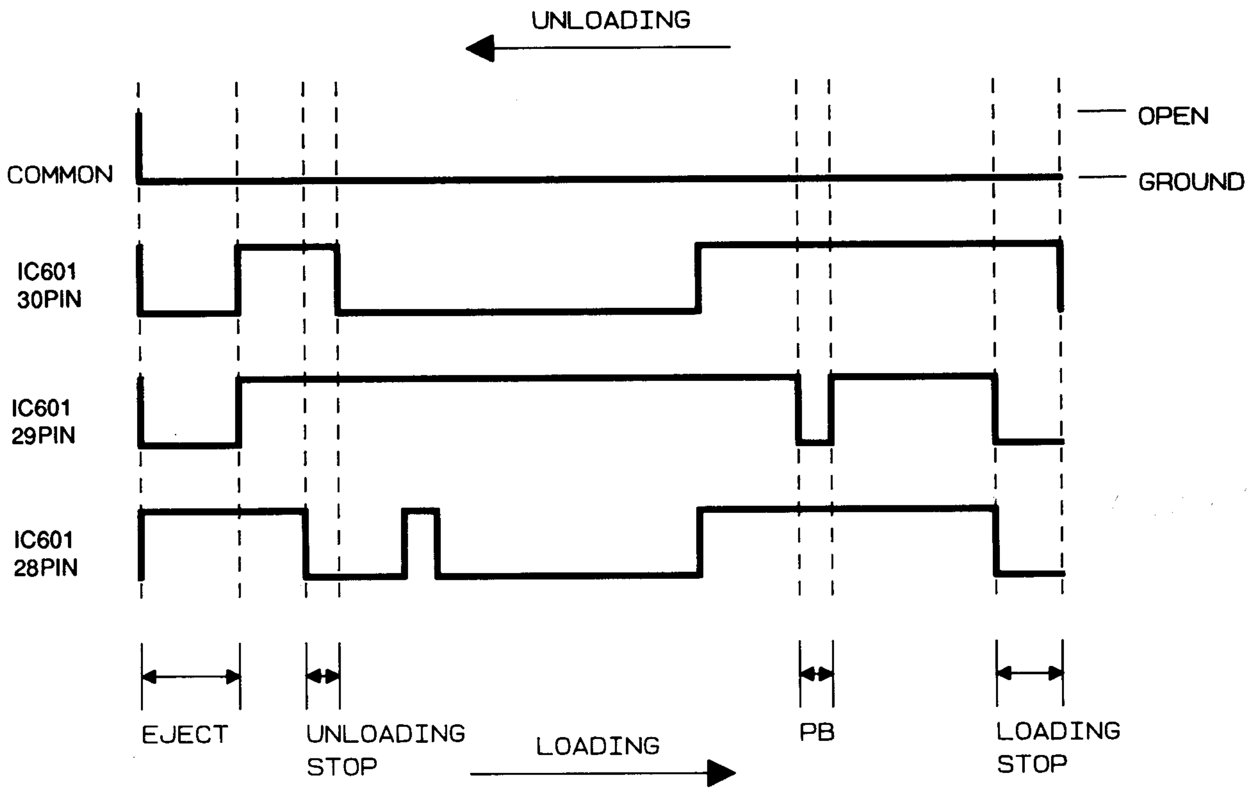
Fig. 3

6. Detail drawing of TP Board



Pin-NO.	Use	Remark
8	Y-FM Carrier Frequency Adjustment	Video Section
	Y-FM Deviation Adjustment	
15	Carrier Frequency Adjustment	Audio Section
16	Head Switching Point Adjustment	Syscon/Servo Section
	AGC Adjustment	Video Section
	PB Output Lever Adjustment	

PROGRAM S/W TIMING CHART


UNLOADING
OPEN
COMMON
GROUND
IC601 30PIN
IC601 29PIN
IC601 28PIN
EJECT
UNLOADING STOP
LOADING
PB
LOADING STOP

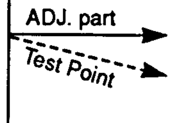
POSITION	IC601 30PIN	IC601 29PIN	IC601 28PIN	MODE
EJECT	L	L	H	EJECT
UNLOADING STOP	H	H	L	UNLOADING STOP
LOADING STOP	H	L	L	LOADING STOP
PB	H	L	H	PLAY, FF, REW, STILL...

10-3-2. DC/DC CONVERTER Section

NOTE

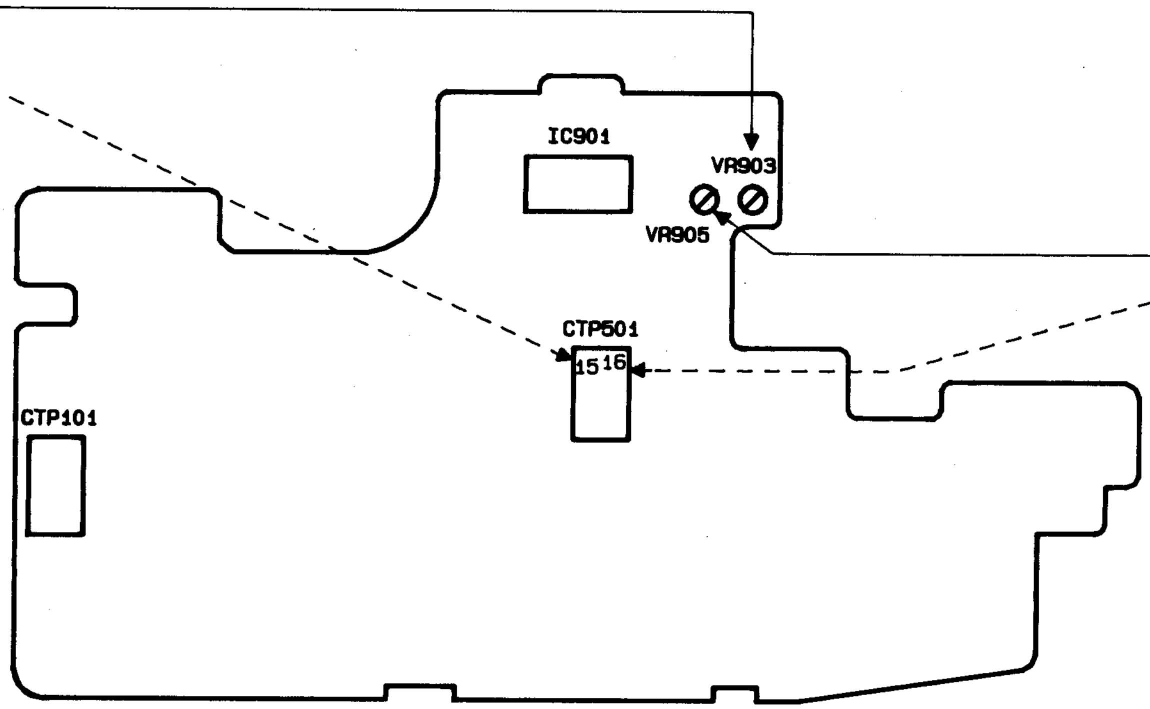
From now on, the structure of every adjustment is as follows.

STEP	ADJUSTMENT ITEM
1. MODE and INPUT SIGNAL/ALIGNMENT TAPE 2. TEST POINT and ADJ. part 3. RESULT & REMARKS	



2	CAMERA 15V

1. CAMERA, no signal input.
2. Pin 15 of CTP501 & VR903.
3. * Set the CAM/VCR switch to the CAM mode.
   * Connect digital voltmeter probes to pin 15 of CTP501.
   * Adjust VR903 so that the digital voltmeter becomes **DC 15 ± 0.5V**.



MAIN PCB (TOP SIDE)

1	CAMERA 5V

1. CAMERA, no signal input.
2. Pin 16 of CTP501 & VR905.
3. * Set the CAM/VCR switch to the CAM mode.
   * Connect digital voltmeter probes to pin 16 of CTP501.
   * Adjust VR902 so that the digital voltmeter becomes **DC 5.0 ± 0.05V**.

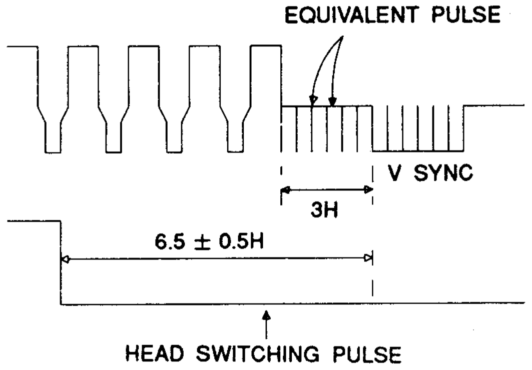
10-3-3. SYSTEM CONTROL/SERVO Section

1 HEAD SWITCHING POINT

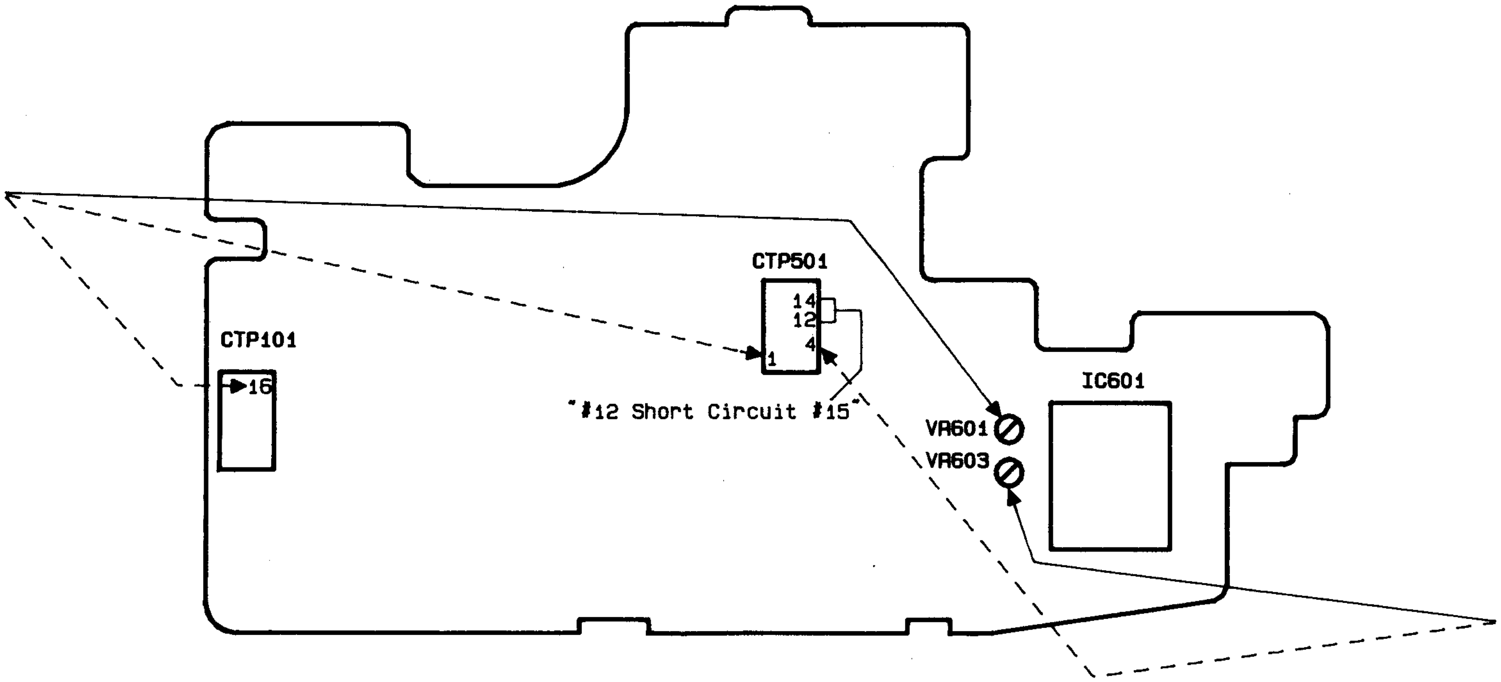
ADJUSTMENT CONDITIONS

- ◆ Set the CAM/VCR switch to the VCR mode and EDIT ON/OFF switch to the off.
- ◆ Short-circuit pin 12 and pin 14 of CTP501 on the Main board.

1. "PB", Alignment tape (Color bar).
2. Pin 16 of CTP101, Pin 1 of CTP501 (Trigger) & VR601.
3. * Connect an oscilloscope's CH-1 to pin 1 of CTP501 for trigger and CH-2 to pin 16 of CTP101.
   * Adjust VR601 so that the switching point is positioned **6.5 ± 0.5H** from the V-SYNC left edge as shown.



EQUIVALENT PULSE
V SYNC
3H
6.5 ± 0.5H
HEAD SWITCHING PULSE

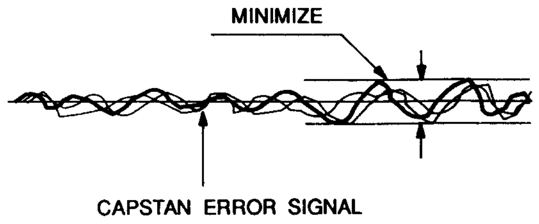


CTP501
14
12
4
1
CTP101
16
"#12 Short Circuit #15"
VR601
VR603
IC601

MAIN PCB (TOP SIDE)

2 CAPSTAN FG

1. "LP-PB", Alignment tape (LP-Color bar).
2. Pin 4 of CTP501 & VR603.
3. * Connect an oscilloscope to pin 4 of CTP501.
   * Adjust VR603 to minimize the width of voltage with LP-PB mode.

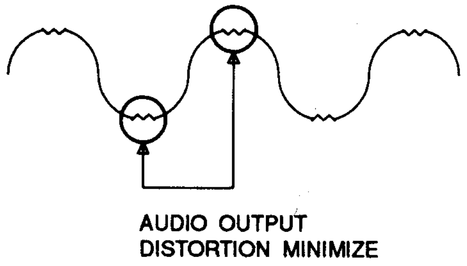


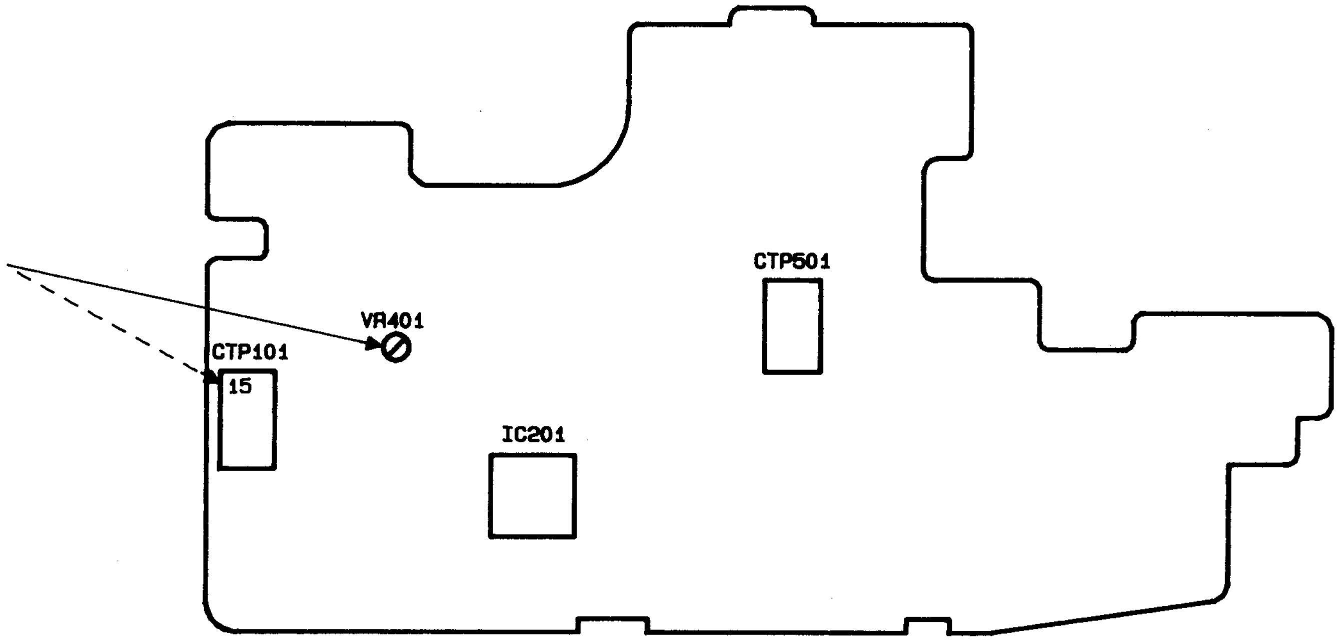
MINIMIZE
CAPSTAN ERROR SIGNAL

10-3-4. AUDIO Section

1 CARRIER FREQUENCY

1. "PB", Alignment tape (Color bar).
2. Pin 15 of CTP101 & VR401.
3. * Connect an oscilloscope to pin 15 of CTP101.
   * Adjust the output waveform to be complete sine wave and the noise level to be minimized.


AUDIO OUTPUT
DISTORTION MINIMIZE

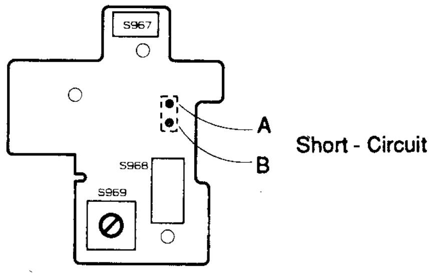

CTP501
VR401
CTP101
15
IC201

MAIN PCB (TOP SIDE)

10-3-5. VIDEO Section

HOW TO RECORD

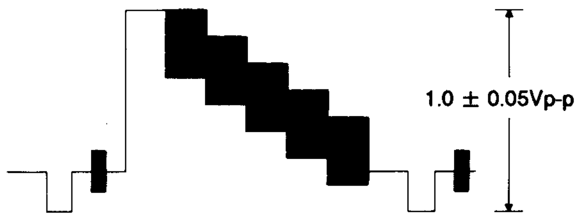
Use this method only when VTR is adjusted at recording mode.
- short-circuit "A" and "B" point on Function board (Bottom side) as shown in fig.

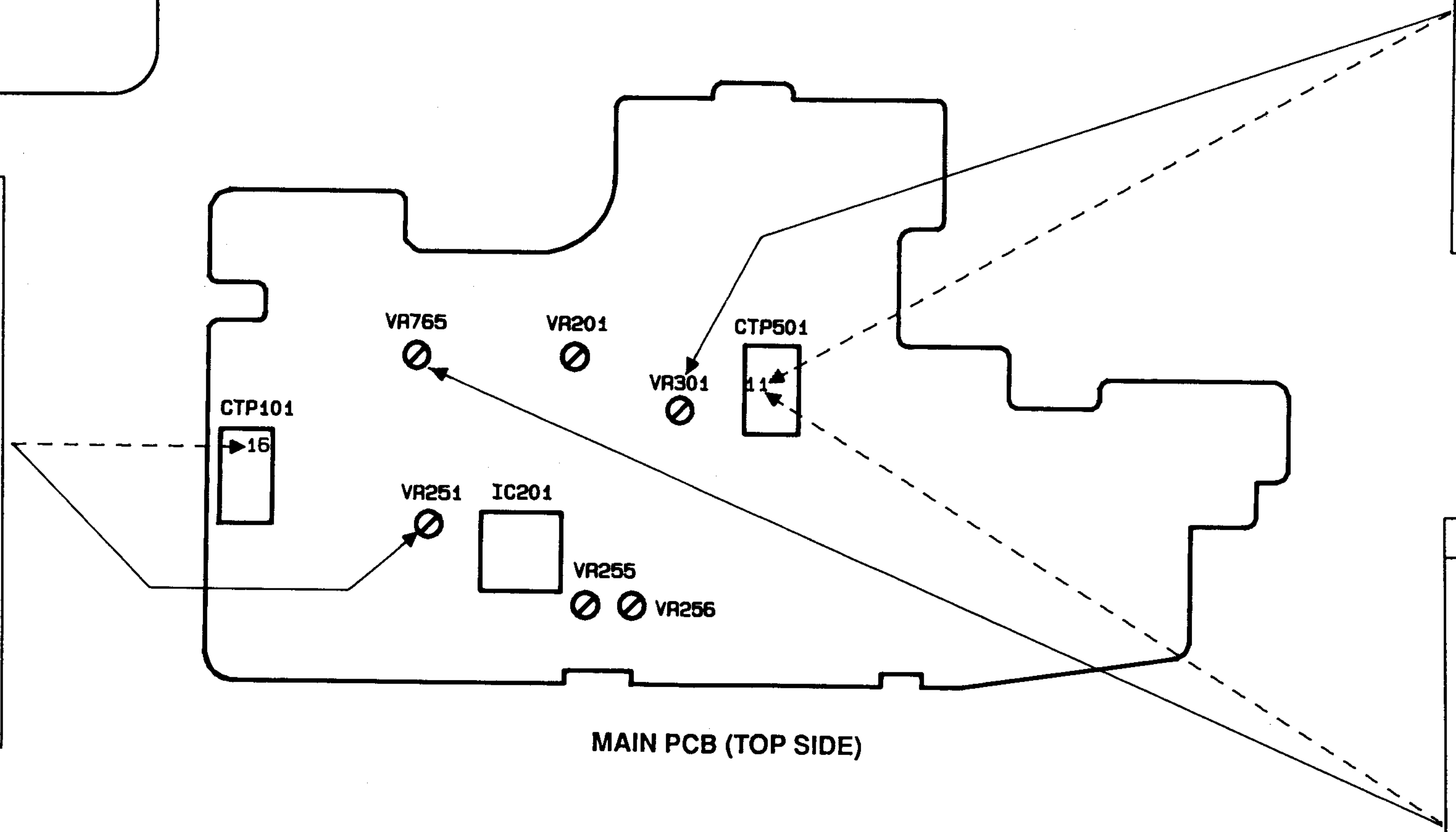

S967
S968
S969
A
B
Short - Circuit

FUNCTION PCB

1 AGC

1. "E-E", 100% Color bar signal.
   (Input Method : Connect the video signal input cable to connector V-IN of TP Board)
2. Pin 16 of CTP101 & VR251.
3. * Connect an oscilloscope to pin 16 of CTP101.
   * Adjust VR251 for **1.0 ± 0.05Vp-p** from sync tip to white peak level.

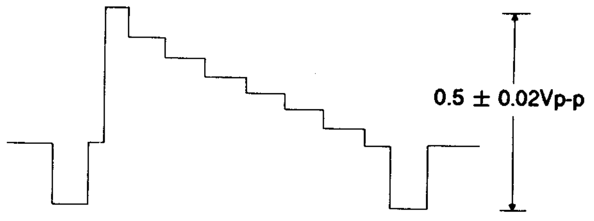



VR765
VR201
CTP501
VR301
11
CTP101
16
VR251
IC201
VR255
VR256

MAIN PCB (TOP SIDE)

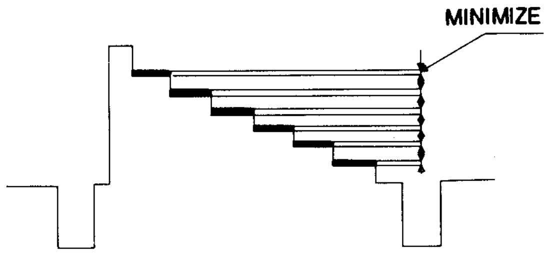
2 EMPHASIS INPUT LEVEL

1. "REC", 100% Color bar signal.
   (Input Method : Connect the video signal input cable to connector V-IN of TP Board)
2. Pin 11 of CTP501 & VR301.
3. * Connect an oscilloscope to pin 11 of CTP501.
   * Adjust VR301 for **0.5 ± 0.02Vp-p** from sync tip to white peak level.



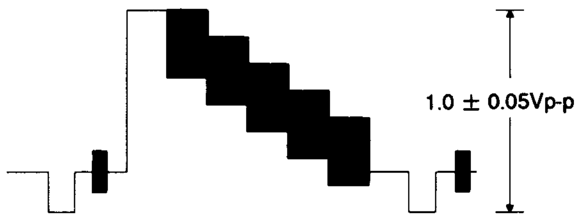
3 Y/C SEPARATION

1. "REC", 100% Color bar signal.
   (Input Method : Connect the video signal input cable to connector V-IN of TP Board)
2. Pin 11 of CTP501 & VR765.
3. * Connect an oscilloscope to pin 11 of CTP501.
   * Adjust VR765 to minimize the residual chroma component.



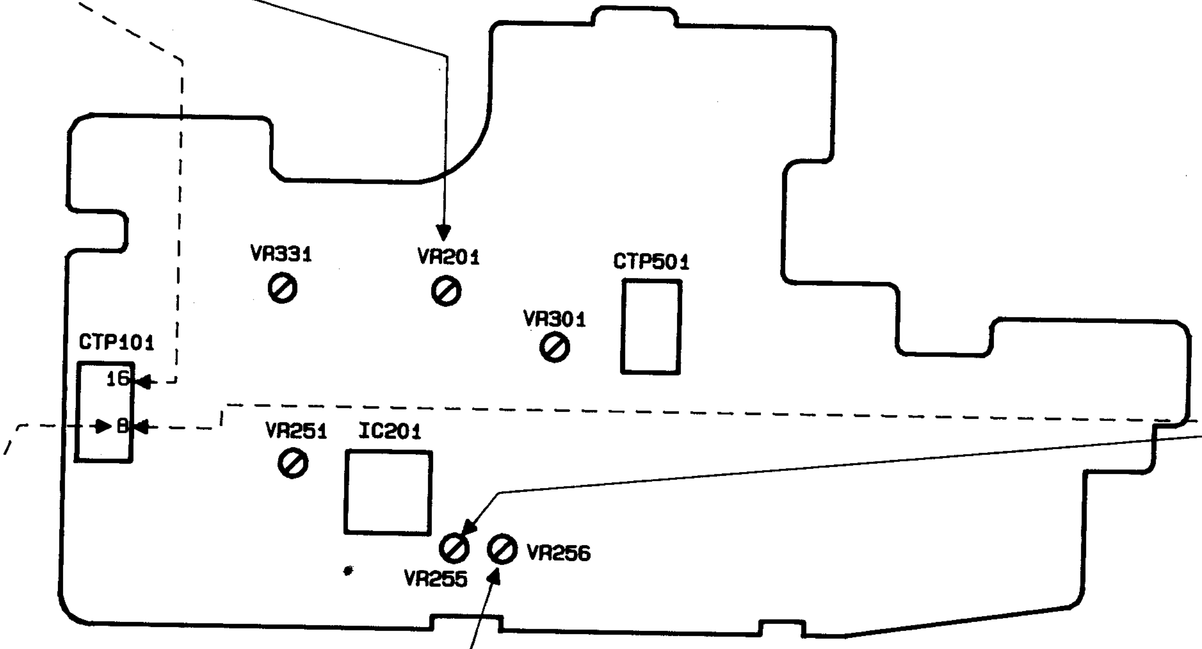
4 PB OUTPUT LEVEL

1. "PB", Ailgnment tape (Color bar).
2. Pin 16 of CTP101 & VR201.
3. * Connect an oscilloscope to pin 16 of CTP101.
   * Adjust VR201 for **1.0 ± 0.05Vp-p** from sync tip to white peak level.



5 Y-FM CARRIER FREQUENCY

1. "REC", No signal input.
2. Pin 8 of CTP101 & VR256.
3. * Connect frequency probe to pin 8 of CTP101.
   * Adjust VR256 so that the frequency is **4.39 ± 0.05MHz**.



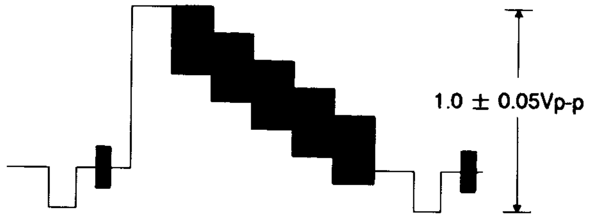
MAIN PCB (TOP SIDE)

6 Y-FM DEVIATION

NOTE : Confirm that "PB OUTPUT LEVEL" and "Y FM CARRIER FREQUENCY" adjustment have been completed.

1. "REC → PB", 100% Color bar signal.
   (Input Method : Connect the video signal input cable to connector V-IN of TP Board)
2. Pin 8 of CTP101 & VR255.
3. * Record the color bar signal.
   * Playback the recorded signal.
   * Confirm the playback output.
     (Specified value ; 1.0 ± 0.05Vp-p)
   * If the specified value is not satisfied, repeat *1 to 3 after turning VR255 in the following manner.

	Rotation direction of VR255
When larger than specified value	Clockwise (↻)
When smaller than specified value	Counterclockwise (↺)



11. P.C.BOARDS

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NOTE

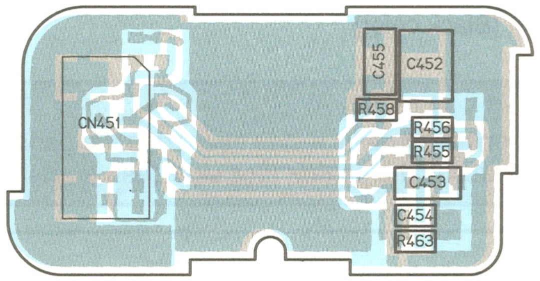
- For P.C.Board

▨ : Pattern from the side which enables seeing. (Blue color)

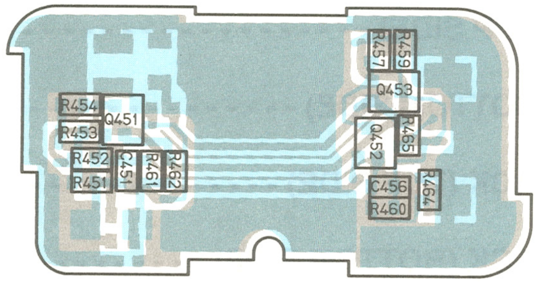
▨ : Pattern of the rear side. (Black color)

Caution :
Parts face side (Top Side) : Parts on the parts face side seen from the parts pattern are indicated.
Pattern face side (Bottom Side) : Parts on the pattern face side seen from the parts face are indicated.

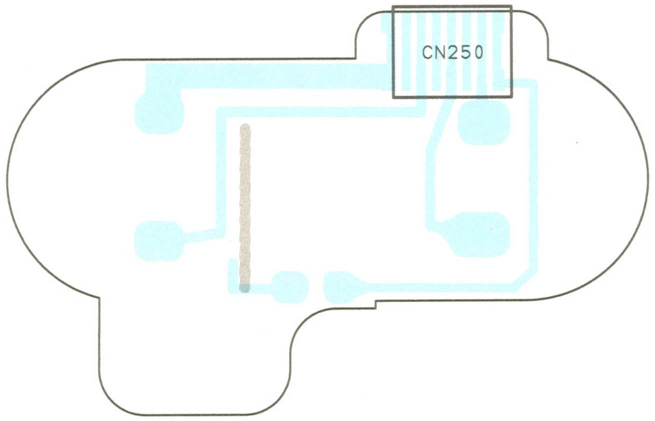
11-1. MIC (TOP SIDE)


C455
C452
CN451
R458
R456
R455
C453
C454
R463

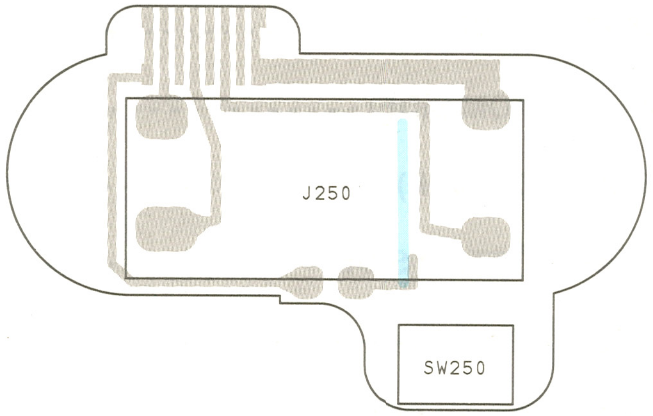
11-2. MIC (BOTTOM SIDE)


R457
R459
Q453
R454
Q451
R453
Q452
R465
R452
C451
R461
R462
R451
C456
R460
R464

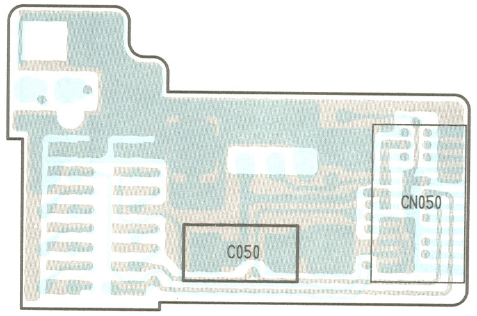
11-3. A/V JACK (TOP SIDE)



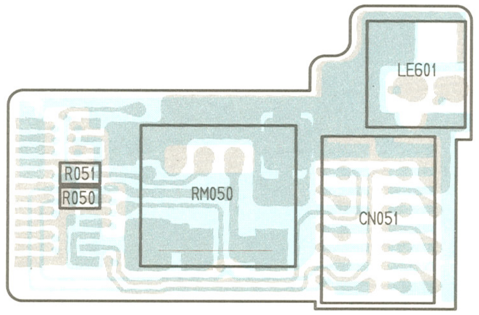
11-4. A/V JACK (BOTTOM SIDE)



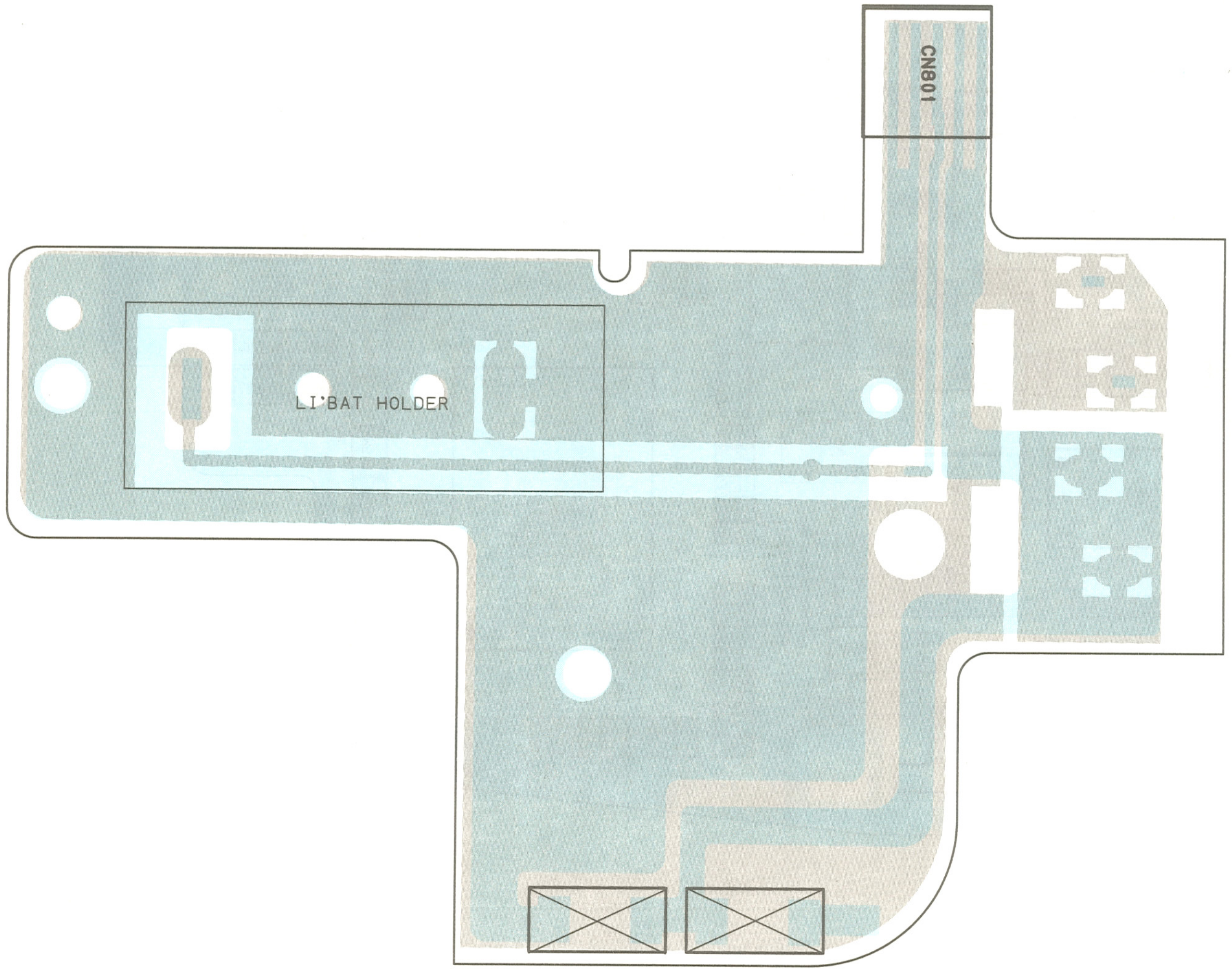
11-5. REMOTE MODULE (TOP SIDE)



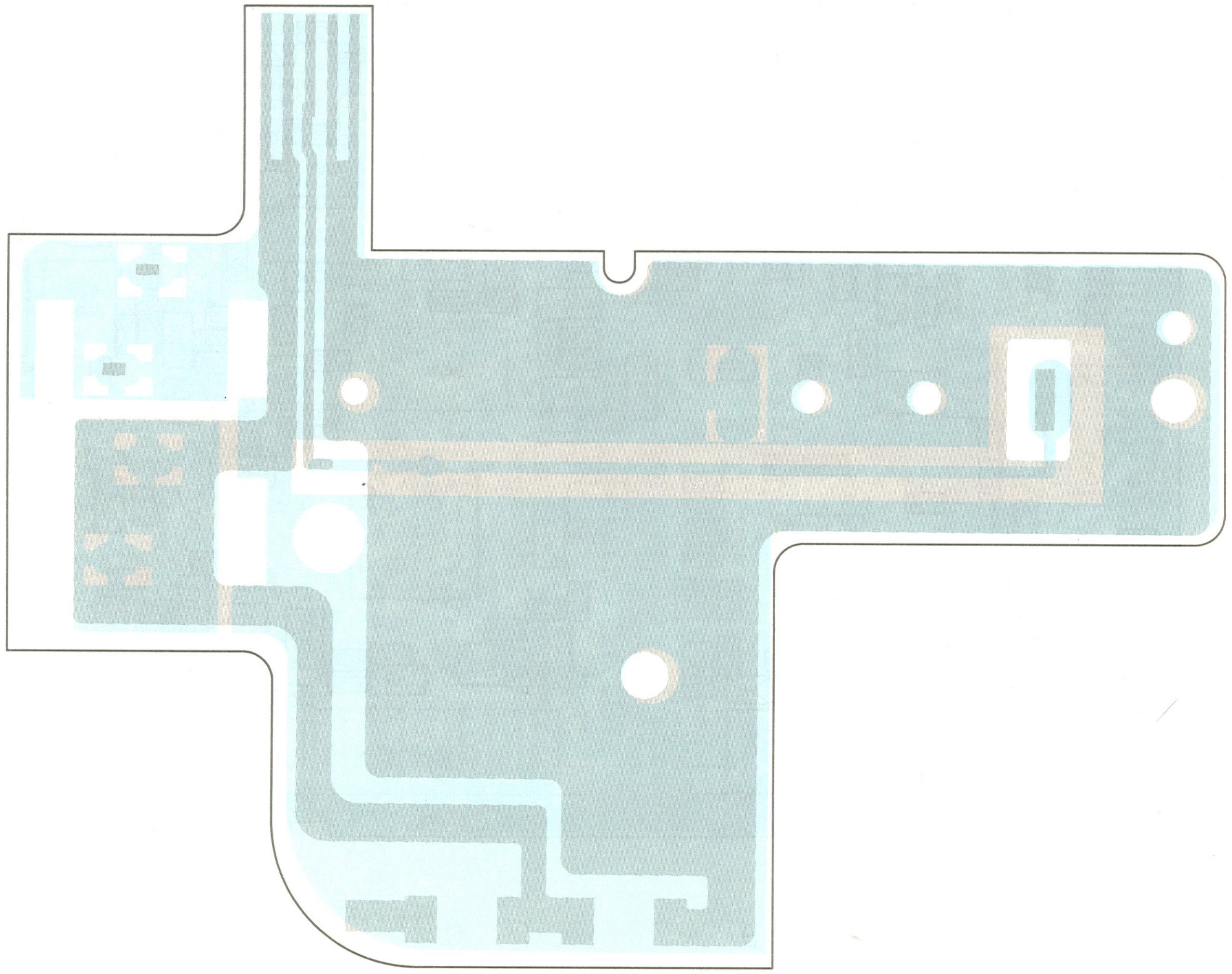
11-6. REMOTE MODULE (BOTTOM SIDE)


LE601
R051
R050
RM050
CN051

11-7. BATTERY TERMINAL (TOP SIDE)


CN801
LI'BAT HOLDER

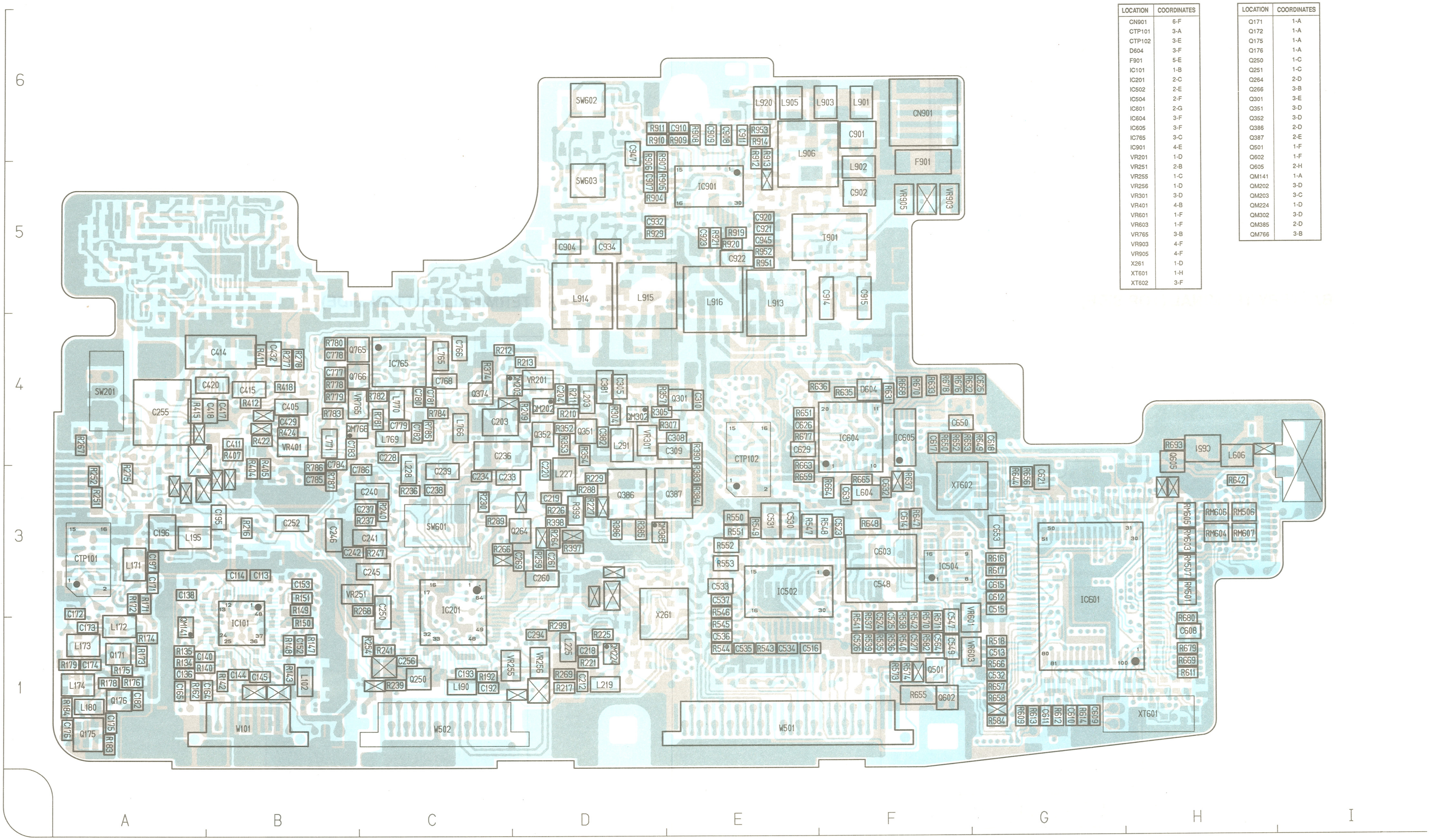
11-8. BATTERY TERMINAL (BOTTOM SIDE)



11-9. MAIN (TOP SIDE)

LOCATION	COORDINATES
CN901	6-F
CTP101	3-A
CTP102	3-E
D604	3-F
F901	5-E
IC101	1-B
IC201	2-C
IC502	2-E
IC504	2-F
IC601	2-G
IC604	3-F
IC605	3-F
IC765	3-C
IC901	4-E
VR201	1-D
VR251	2-B
VR255	1-C
VR256	1-D
VR301	3-D
VR401	4-B
VR601	1-F
VR603	1-F
VR765	3-B
VR903	4-F
VR905	4-F
X261	1-D
XT601	1-H
XT602	3-F

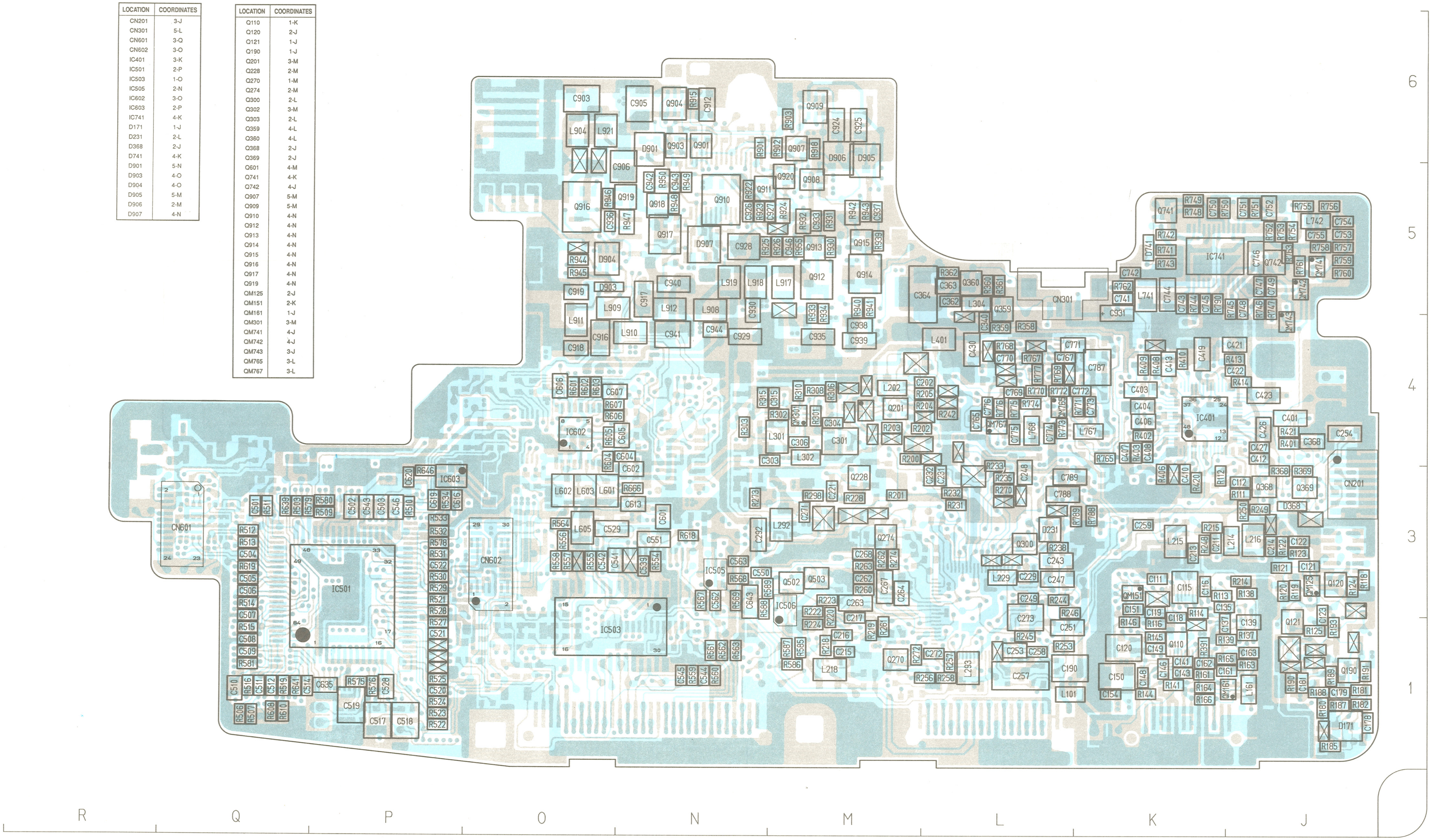
LOCATION	COORDINATES
Q171	1-A
Q172	1-A
Q175	1-A
Q176	1-A
Q250	1-C
Q251	1-C
Q264	2-D
Q266	3-B
Q301	3-E
Q351	3-D
Q352	3-D
Q386	2-D
Q387	2-E
Q501	1-F
Q602	1-F
Q605	2-H
QM141	1-A
QM202	3-D
QM203	3-C
QM224	1-D
QM302	3-D
QM385	2-D
QM766	3-B


6
5
4
3
1
A
B
C
D
E
F
G
H
I
SW602
SW603
L920
L905
L903
L901
CN901
C901
L906
L902
F901
C902
VR905
VR903
IC901
T901
C904
C934
L914
L915
L916
L913
C914
C915
SW201
C255
C414
C420
C415
C405
VR401
IC765
Q765
Q766
VR765
QM766
C203
C236
VR201
QM202
QM203
Q374
Q351
Q352
QM302
VR301
Q301
L291
CTP102
IC604
IC605
D604
C650
XT602
L606
C651
Q605
L604
Q386
Q387
QM385
SW601
C252
C196
L195
CTP101
L171
L172
L173
L174
L180
Q171
Q175
Q176
IC101
QM141
C138
VR251
C250
IC201
Q250
X261
VR255
VR256
QM224
L219
L225
L190
C260
Q264
IC502
IC504
C503
C548
VR601
VR603
Q501
Q602
R655
IC601
RM605
RM606
RM506
RM604
RM607
RM603
RM507
RM501
C608
XT601
W101
W502
W501
L102

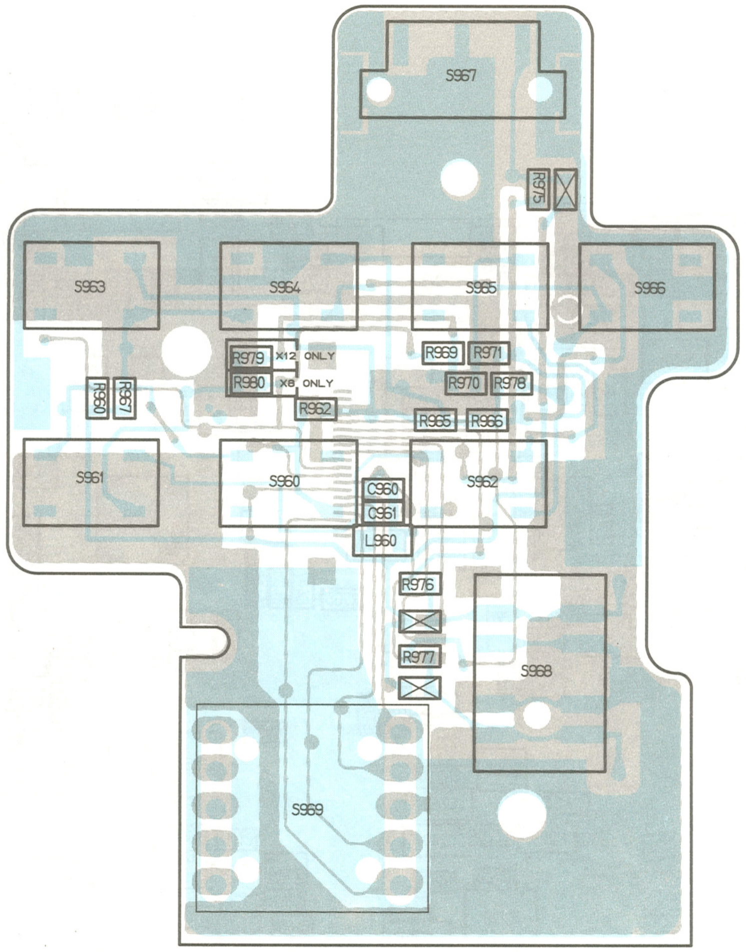
11-10. MAIN (BOTTOM SIDE)

LOCATION	COORDINATES
CN201	3-J
CN301	5-L
CN601	3-Q
CN602	3-O
IC401	3-K
IC501	2-P
IC503	1-O
IC505	2-N
IC602	3-O
IC603	2-P
IC741	4-K
D171	1-J
D231	2-L
D368	2-J
D741	4-K
D901	5-N
D903	4-O
D904	4-O
D905	5-M
D906	2-M
D907	4-N

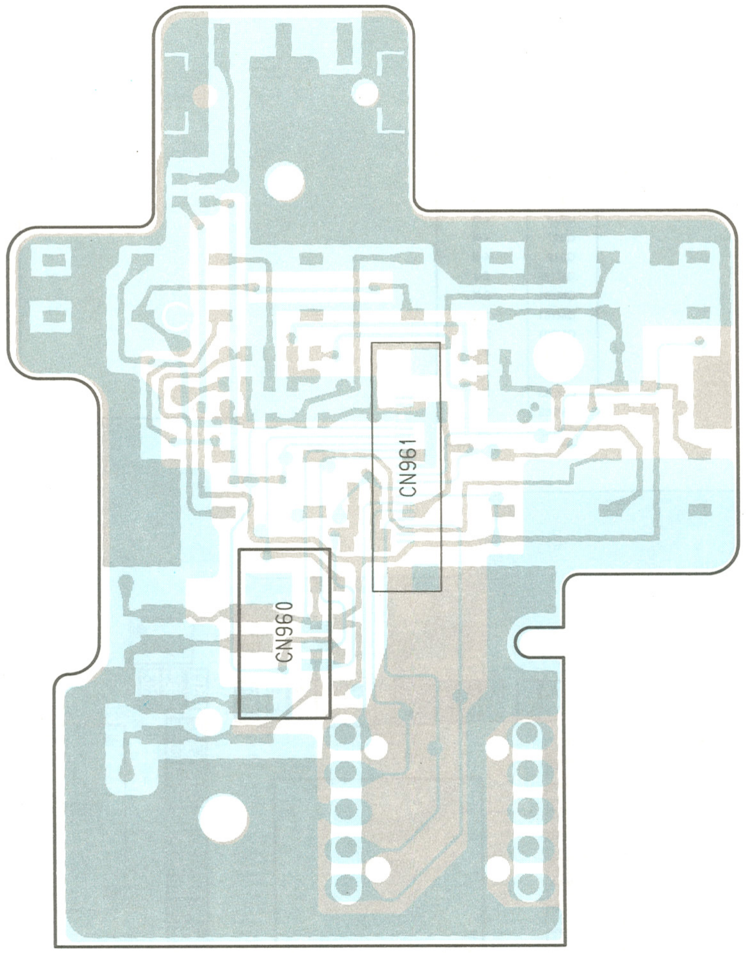
LOCATION	COORDINATES
Q110	1-K
Q120	2-J
Q121	1-J
Q190	1-J
Q201	3-M
Q228	2-M
Q270	1-M
Q274	2-M
Q300	2-L
Q302	3-M
Q303	2-L
Q359	4-L
Q360	4-L
Q368	2-J
Q369	2-J
Q601	4-M
Q741	4-K
Q742	4-J
Q907	5-M
Q909	5-M
Q910	4-N
Q912	4-N
Q913	4-N
Q914	4-N
Q915	4-N
Q916	4-N
Q917	4-N
Q919	4-N
QM125	2-J
QM151	2-K
QM161	1-J
QM301	3-M
QM741	4-J
QM742	4-J
QM743	3-J
QM765	3-L
QM767	3-L


6
5
4
3
2
1
R
Q
P
O
N
M
L
K
J
CN201
CN301
CN601
CN602
IC401
IC501
IC503
IC505
IC506
IC602
IC603
IC741

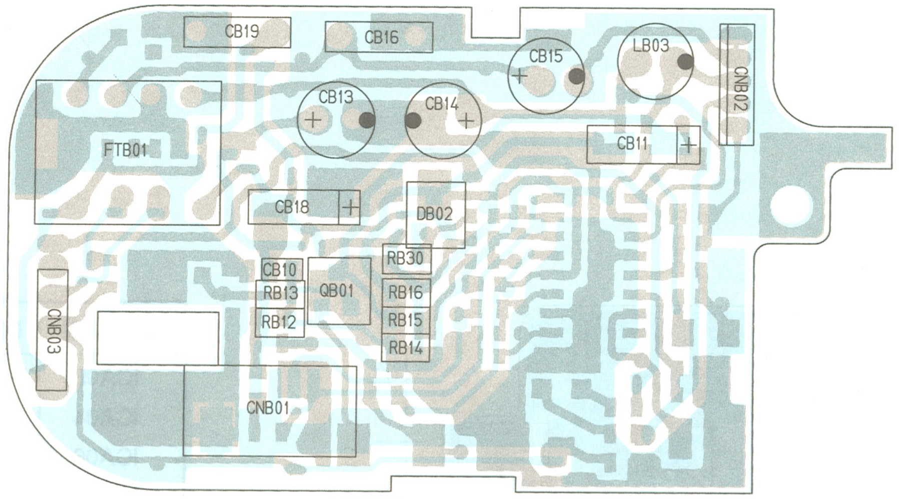
11-11. FUNCTION (TOP SIDE)


S967
R975
S963
S964
S965
S966
R979
X12 ONLY
R980
X8 ONLY
R960
R967
R969
R971
R970
R978
R962
R965
R966
S961
S960
S962
C960
C961
L960
R976
R977
S968
S969

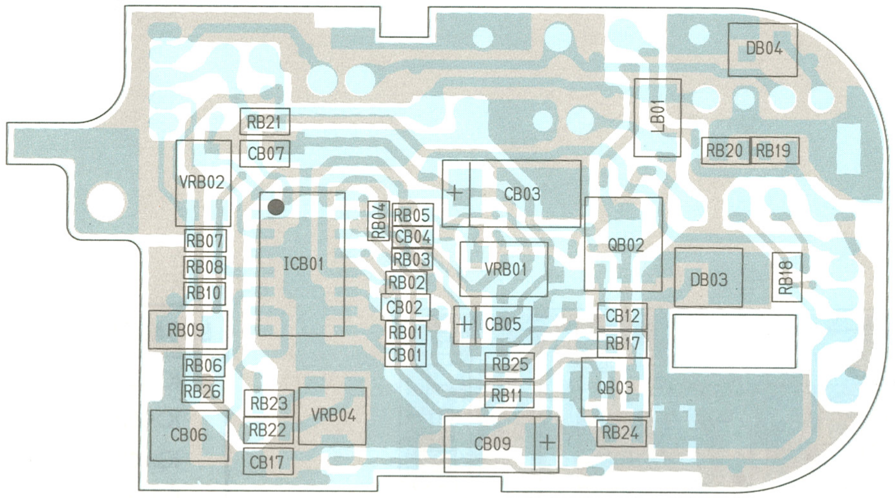
11-12. FUNCTION (BOTTOM SIDE)


CN961
CN960

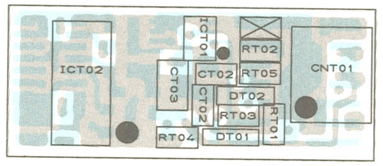
11-13. EVF (TOP SIDE)


CB19
CB16
CB15
LB03
CNB02
CB13
CB14
FTB01
CB11
CB18
DB02
RB30
CB10
RB13
QB01
RB16
RB12
RB15
RB14
CNB03
CNB01

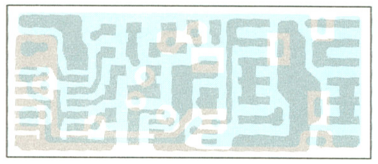
11-14. EVF (BOTTOM SIDE)


DB04
RB21
CB07
LB01
RB20
RB19
VRB02
CB03
RB04
RB05
CB04
RB07
ICB01
RB03
VRB01
QB02
RB08
RB02
DB03
RB18
RB10
CB02
CB12
RB09
RB01
CB05
RB17
CB01
RB06
RB25
QB03
RB26
RB11
RB23
VRB04
CB06
RB22
CB09
RB24
CB17

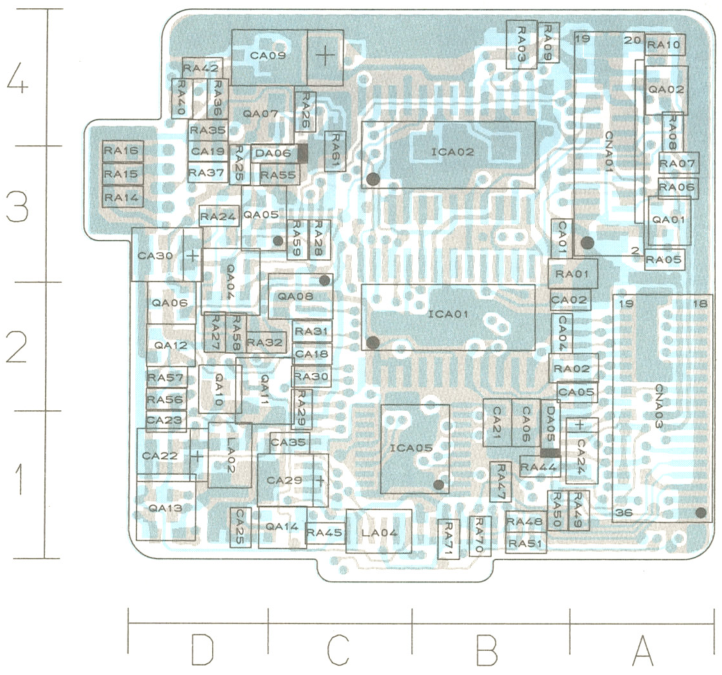
11-15. DELAY (TOP SIDE)


ICT01
RT02
ICT02
CT03
CT02
RT05
CNT01
DT02
CT02
RT03
RT01
RT04
DT01

11-16. DELAY (BOTTOM SIDE)

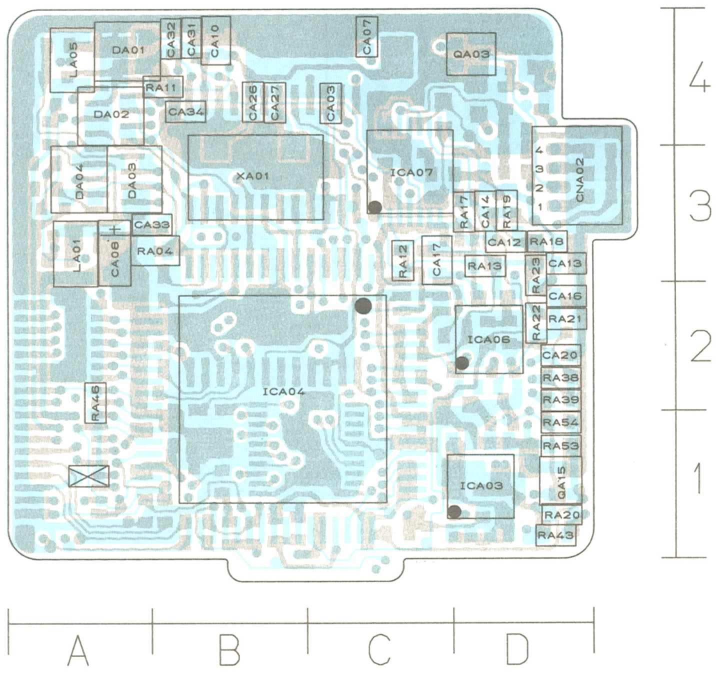


11-17. AUTO (TOP SIDE)


4
3
2
1
ICA01
ICA02
ICA05
CNA01
CNA03
D
C
B
A

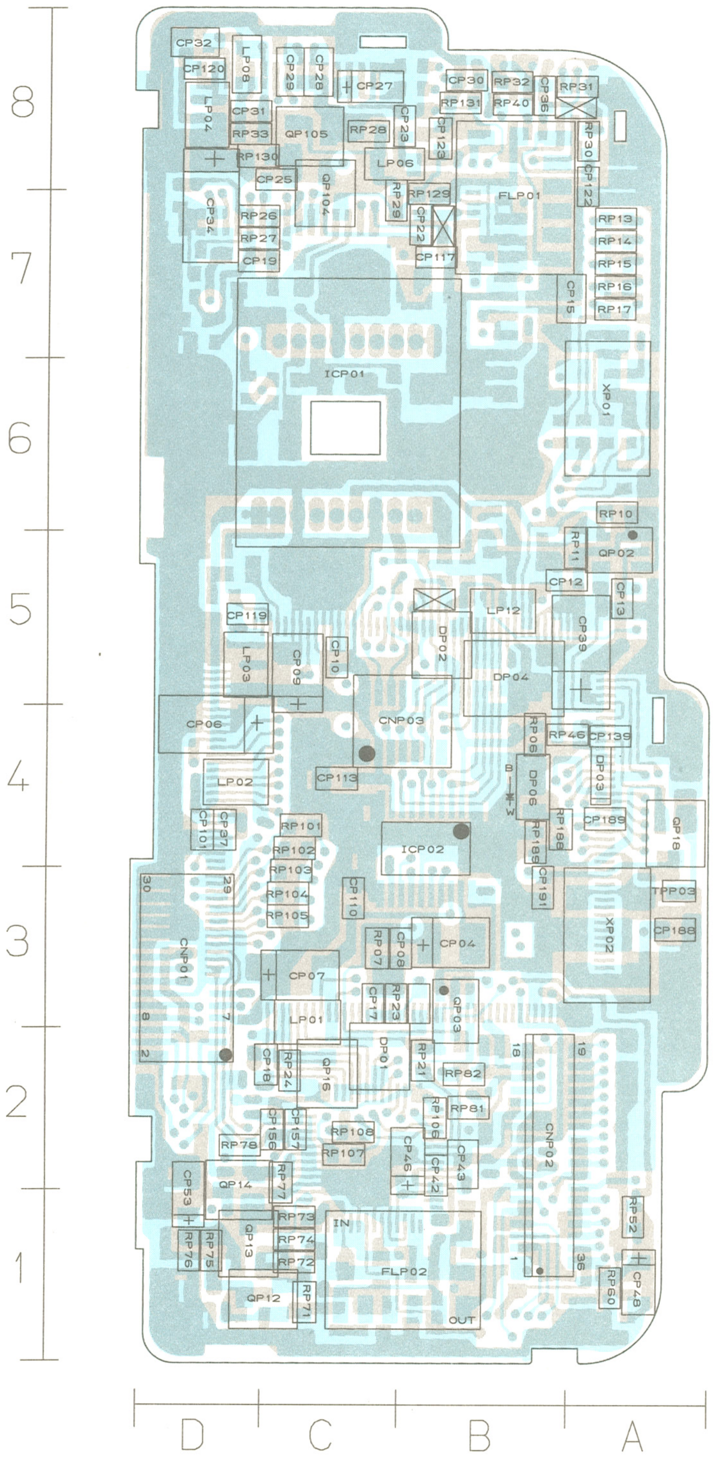
LOCATION	COORDINATES
ICA01	2-B
ICA02	3-B
ICA05	1-B
DA05	1-B
DA06	3-C
LD02	1-D
LD04	1-C
QA01	3-A
QA02	4-A
QA04	2-D
QA05	3-C
QA06	2-D
QA07	4-C
QA08	2-C
QA10	2-D
QA11	2-D
QA12	2-D
QA13	1-D

11-18. AUTO (BOTTOM SIDE)


4
3
2
1
ICA03
ICA04
ICA06
ICA07
XA01
CNA02
A
B
C
D

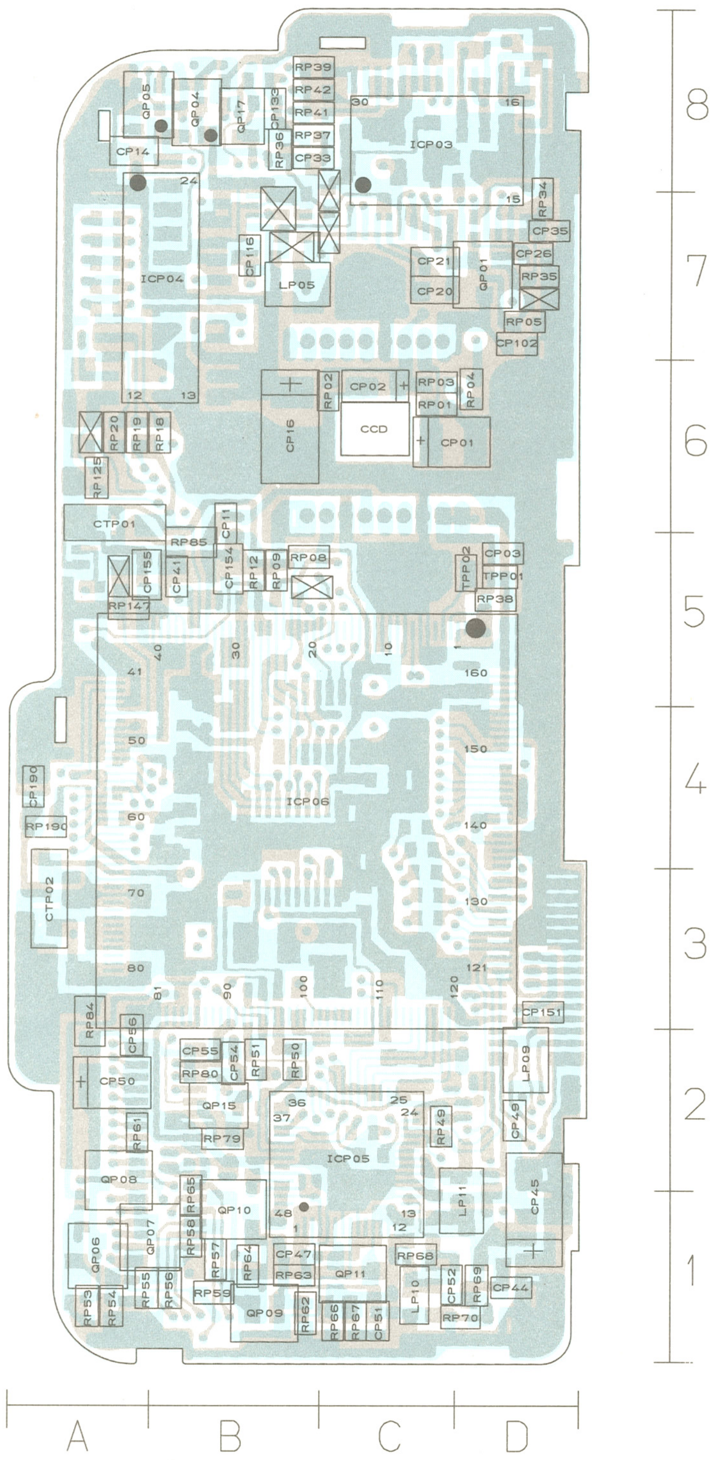
LOCATION	COORDINATES
ICA03	1-D
ICA04	2-B
ICA06	2-D
ICA07	3-C
DA01	4-A
DA02	4-A
DA03	3-A
DA04	3-A
LA01	3-A
LA05	4-A
QA03	4-D
QA15	1-D

11-19. PROCESS (TOP SIDE)



LOCATION	COORDINATES
CNP01	3-D
CNP02	2-B
CNP03	4-C
ICP01	6-C
ICP02	4-B
DP01	2-C
DP02	5-B
DP03	4-A
DP04	5-B
DP06	4-B
FLP01	7-B
FLP02	1-C
LP01	2-C
LP02	4-D
LP03	5-D
LP04	8-D
LP08	8-C
LP12	5-B
QP02	5-A
QP03	3-B
QP09	1-B
QP104	7-C
QP105	8-C
QP12	1-C
QP13	1-D
QP14	1-D
QP16	2-C
QP18	4-A
XP01	6-A
XP02	3-A

11-20. PROCESS (BOTTOM SIDE)



LOCATION	COORDINATES
CTP01	6-A
CTP02	3-A
ICP03	8-C
ICP04	7-B
ICP05	2-C
ICP06	4-C
LP05	7-B
LP09	2-D
LP10	1-C
LP11	1-D
QP01	7-D
QP04	8-B
QP05	8-A
QP06	1-A
QP07	1-A
QP08	2-A
QP09	1-B
QP10	1-B
QP11	1-C
QP15	2-B
QP17	8-B

12. BLOCK DIAGRAMS

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12-1. TOTAL WIRING DIAGRAM ----------------- 12-2

12-2. OVERALL BLOCK DIAGRAM (CAMERA)------- 12-3

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12-4. DC/DC CONVERTER --------------------- 12-5

12-5. SYSTEM CONTROL ---------------------- 12-6

12-6. DRUM SERVO -------------------------- 12-7

12-7. CAPSTAN SERVO ----------------------- 12-8

12-8. VIDEO PLAYBACK ---------------------- 12-9

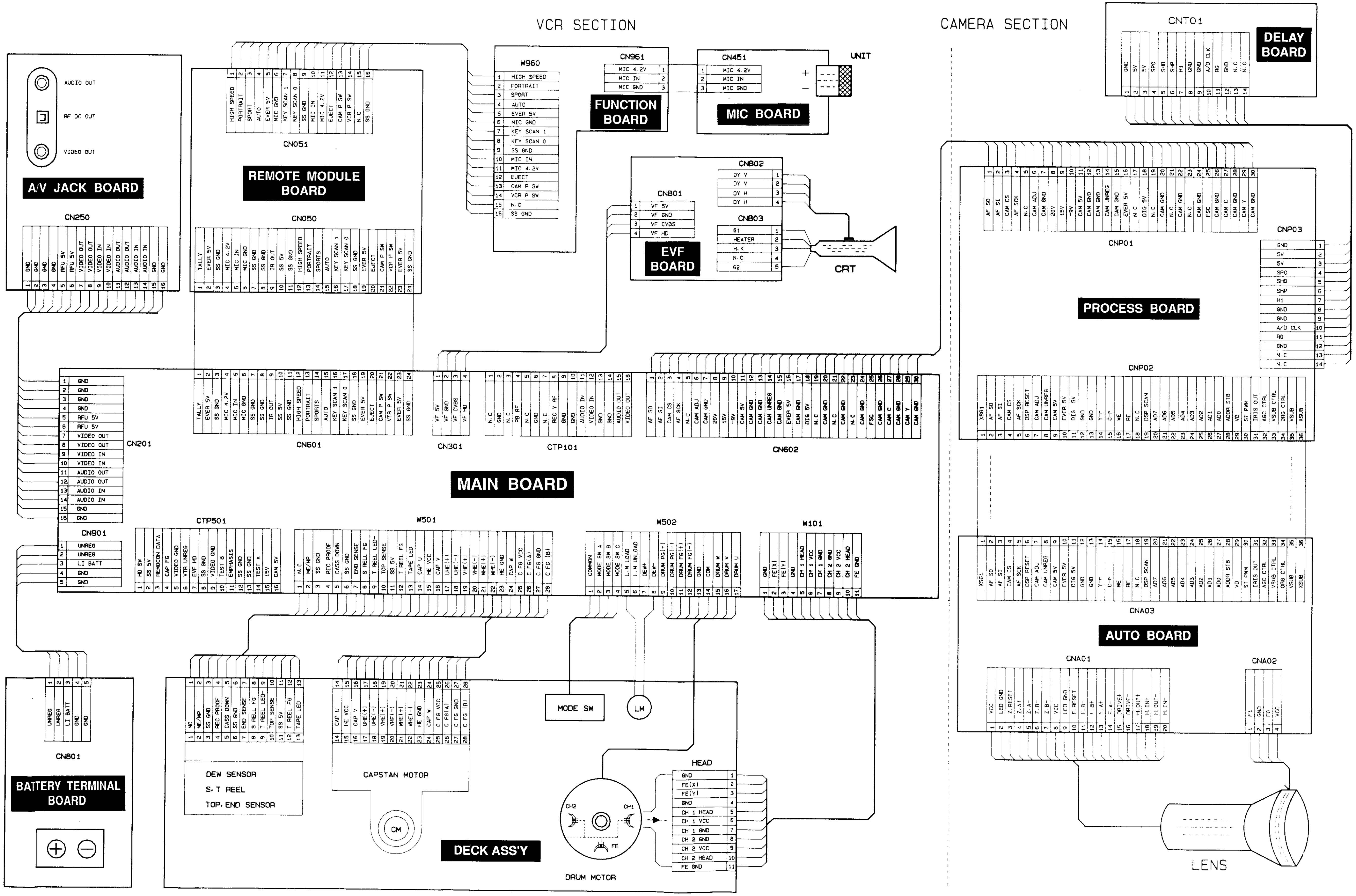
12-9. VIDEO RECORD ------------------------ 12-10

12-10. AUDIO ------------------------------- 12-11

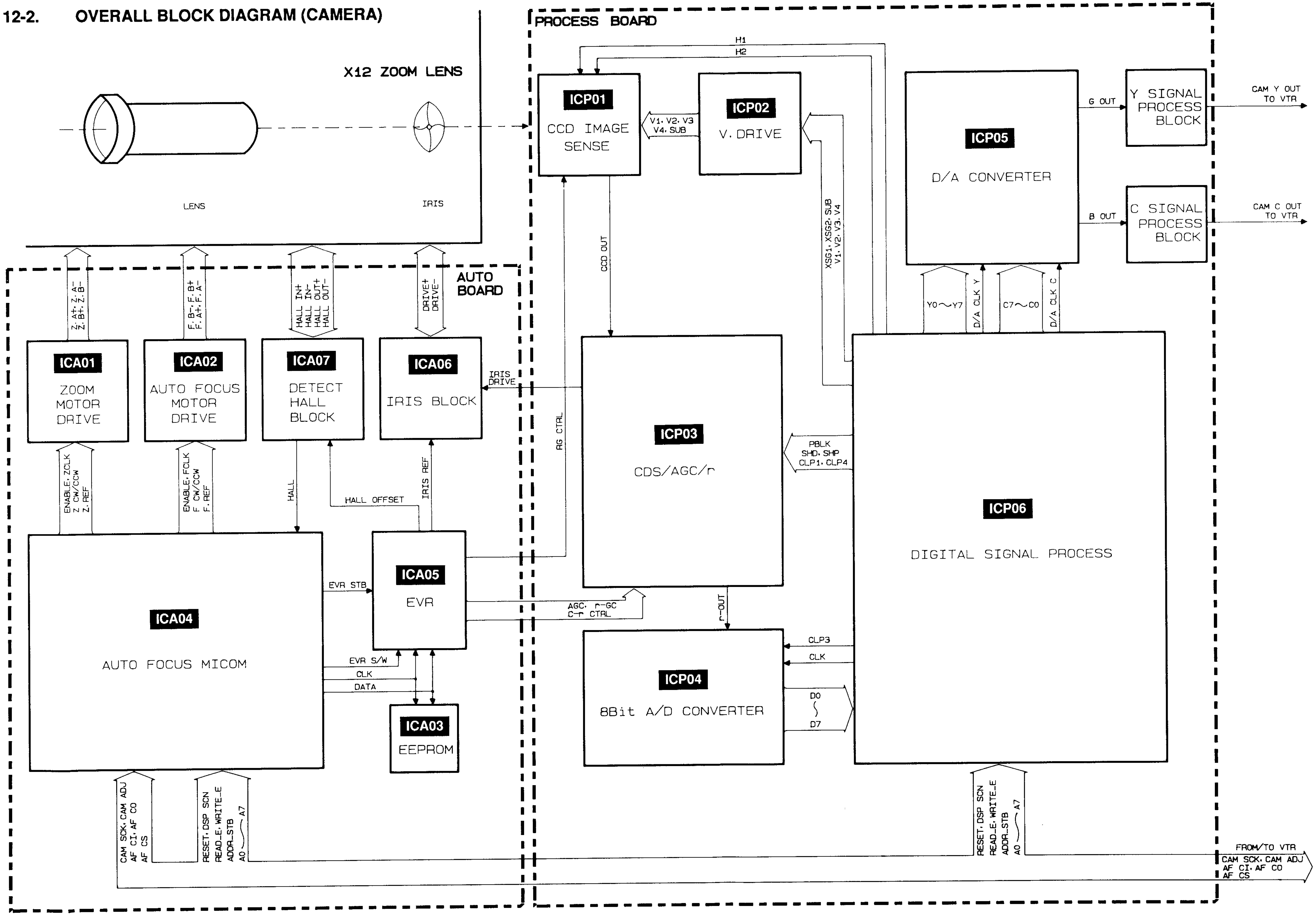
12-11. PRE-AMP ----------------------------- 12-12

12-12. AUTO/PROCESS ------------------------ 12-13

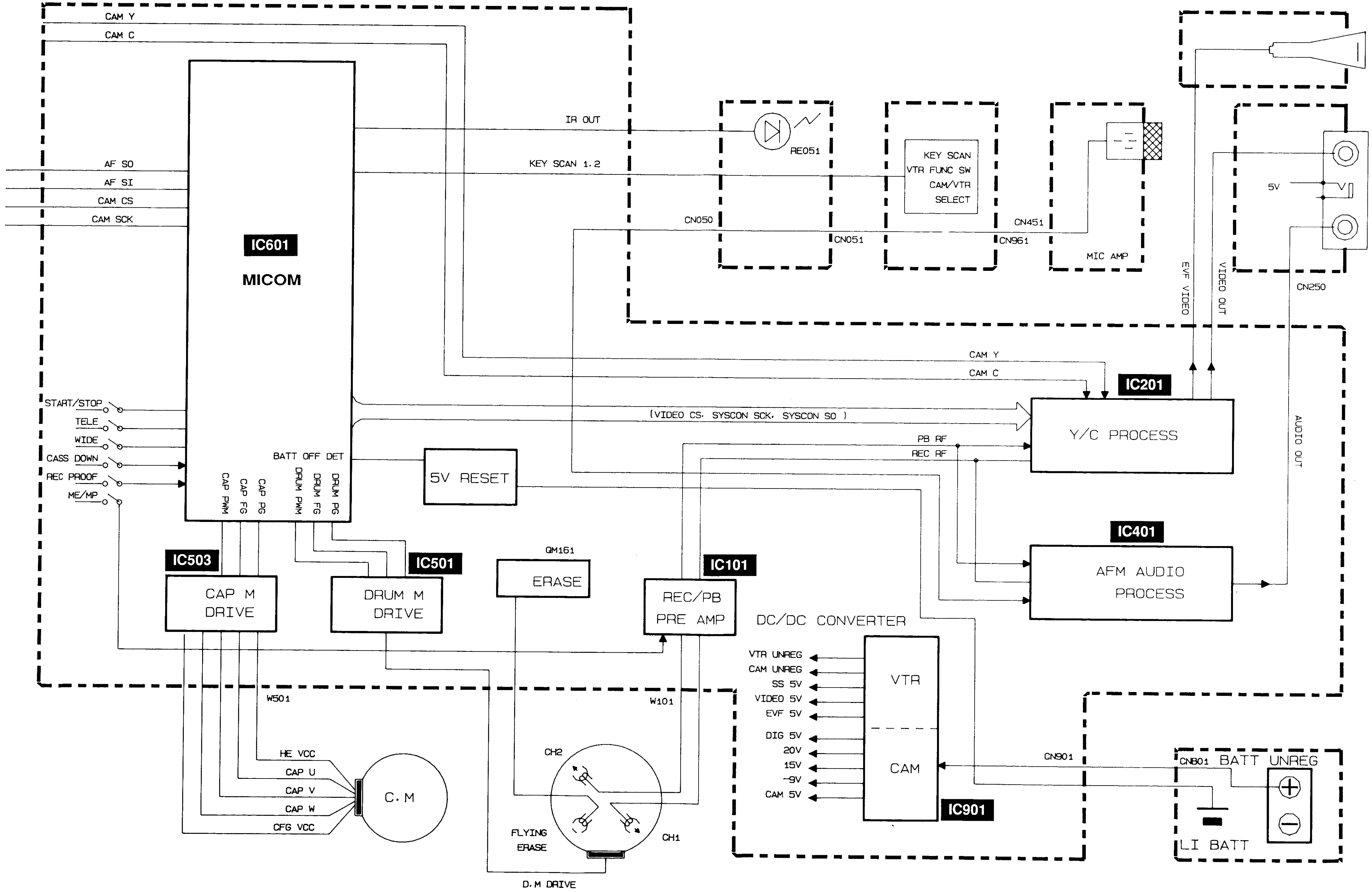
12-1. TOTAL WIRING DIAGRAM


VCR SECTION
CAMERA SECTION
A/V JACK BOARD
AUDIO OUT
RF DC OUT
VIDEO OUT
CN250
REMOTE MODULE BOARD
CN051
CN050
W960
1 HIGH SPEED
2 PORTRAIT
3 SPORT
4 AUTO
5 EVER 5V
6 MIC GND
7 KEY SCAN 1
8 KEY SCAN 0
9 SS GND
10 MIC IN
11 MIC 4.2V
12 EJECT
13 CAM P SW
14 VCR P SW
15 N.C
16 SS GND
CN961
MIC 4.2V 1
MIC IN 2
MIC GND 3
FUNCTION BOARD
CN451
1 MIC 4.2V
2 MIC IN
3 MIC GND
UNIT
MIC BOARD
CNB02
DY V 1
DY V 2
DY H 3
DY H 4
CNB01
1 VF 5V
2 VF GND
3 VF CVBS
4 VF HD
CNB03
G1 1
HEATER 2
H.K 3
N.C 4
G2 5
EVF BOARD
CRT
CNT01
DELAY BOARD
CNP01
CNP03
GND 1
5V 2
5V 3
SPO 4
SHO 5
SHP 6
H1 7
GND 8
GND 9
A/D CLK 10
RG 11
GND 12
N.C 13
N.C 14
PROCESS BOARD
CNP02
CN201
1 GND
2 GND
3 GND
4 GND
5 RFU 5V
6 RFU 5V
7 VIDEO OUT
8 VIDEO OUT
9 VIDEO IN
10 VIDEO IN
11 AUDIO OUT
12 AUDIO OUT
13 AUDIO IN
14 AUDIO IN
15 GND
16 GND
CN601
CN301
CTP101
CN602
MAIN BOARD
CN901
1 UNREG
2 UNREG
3 LI BATT
4 GND
5 GND
CTP501
W501
W502
W101
CNA03
AUTO BOARD
CNA01
CNA02
CN801
UNREG
UNREG
LI BATT
GND
GND
BATTERY TERMINAL BOARD
DEW SENSOR
S.T REEL
TOP.END SENSOR
CAPSTAN MOTOR
CM
MODE SW
LM
HEAD
GND 1
FE(X) 2
FE(Y) 3
GND 4
CH 1 HEAD 5
CH 1 VCC 6
CH 1 GND 7
CH 2 GND 8
CH 2 VCC 9
CH 2 HEAD 10
FE GND 11
CH2
CH1
FE
DRUM MOTOR
DECK ASS'Y
LENS

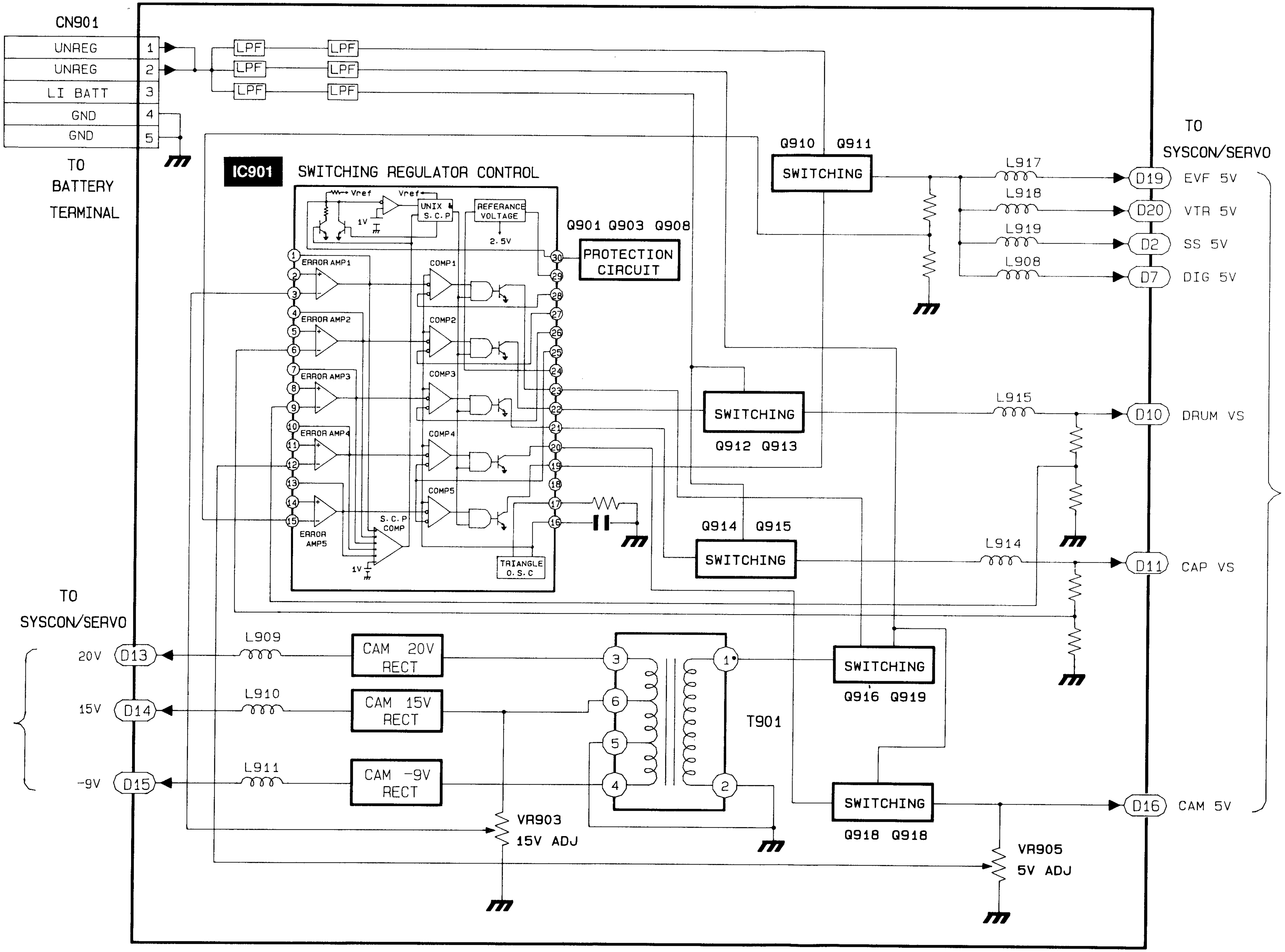
12-2. OVERALL BLOCK DIAGRAM (CAMERA)


X12 ZOOM LENS
LENS
IRIS
PROCESS BOARD
AUTO BOARD
H1
H2
ICP01
CCD IMAGE SENSE
V1, V2, V3
V4, SUB
ICP02
V. DRIVE
ICP05
D/A CONVERTER
G OUT
B OUT
Y SIGNAL PROCESS BLOCK
C SIGNAL PROCESS BLOCK
CAM Y OUT TO VTR
CAM C OUT TO VTR
CCD OUT
XSG1, XSG2, SUB
V1, V2, V3, V4
Y0～Y7
D/A CLK Y
C7～C0
D/A CLK C
Z.A+, Z.A-
Z.B+, Z.B-
F.B-, F.B+
F.A+, F.A-
HALL IN+
HALL IN-
HALL OUT+
HALL OUT-
DRIVE+
DRIVE-
ICA01
ZOOM MOTOR DRIVE
ICA02
AUTO FOCUS MOTOR DRIVE
ICA07
DETECT HALL BLOCK
ICA06
IRIS BLOCK
IRIS DRIVE
RG CTRL
ICP03
CDS/AGC/r
PBLK
SHD, SHP
CLP1, CLP4
ICP06
DIGITAL SIGNAL PROCESS
ENABLE, ZCLK
Z CW/CCW
Z.REF
ENABLE, FCLK
F CW/CCW
F.REF
HALL
HALL OFFSET
IRIS REF
ICA04
AUTO FOCUS MICOM
EVR STB
ICA05
EVR
AGC, r-GC
C-r CTRL
r-OUT
EVR S/W
CLK
DATA
ICA03
EEPROM
CLP3
CLK
ICP04
8Bit A/D CONVERTER
D0
D7
CAM SCK, CAM ADJ
AF CI, AF CO
AF CS
RESET, DSP SCN
READ_E, WRITE_E
ADDR_STB
A0 ～ A7
RESET, DSP SCN
READ_E, WRITE_E
ADDR_STB
A0 ～ A7
FROM/TO VTR
CAM SCK, CAM ADJ
AF CI, AF CO
AF CS

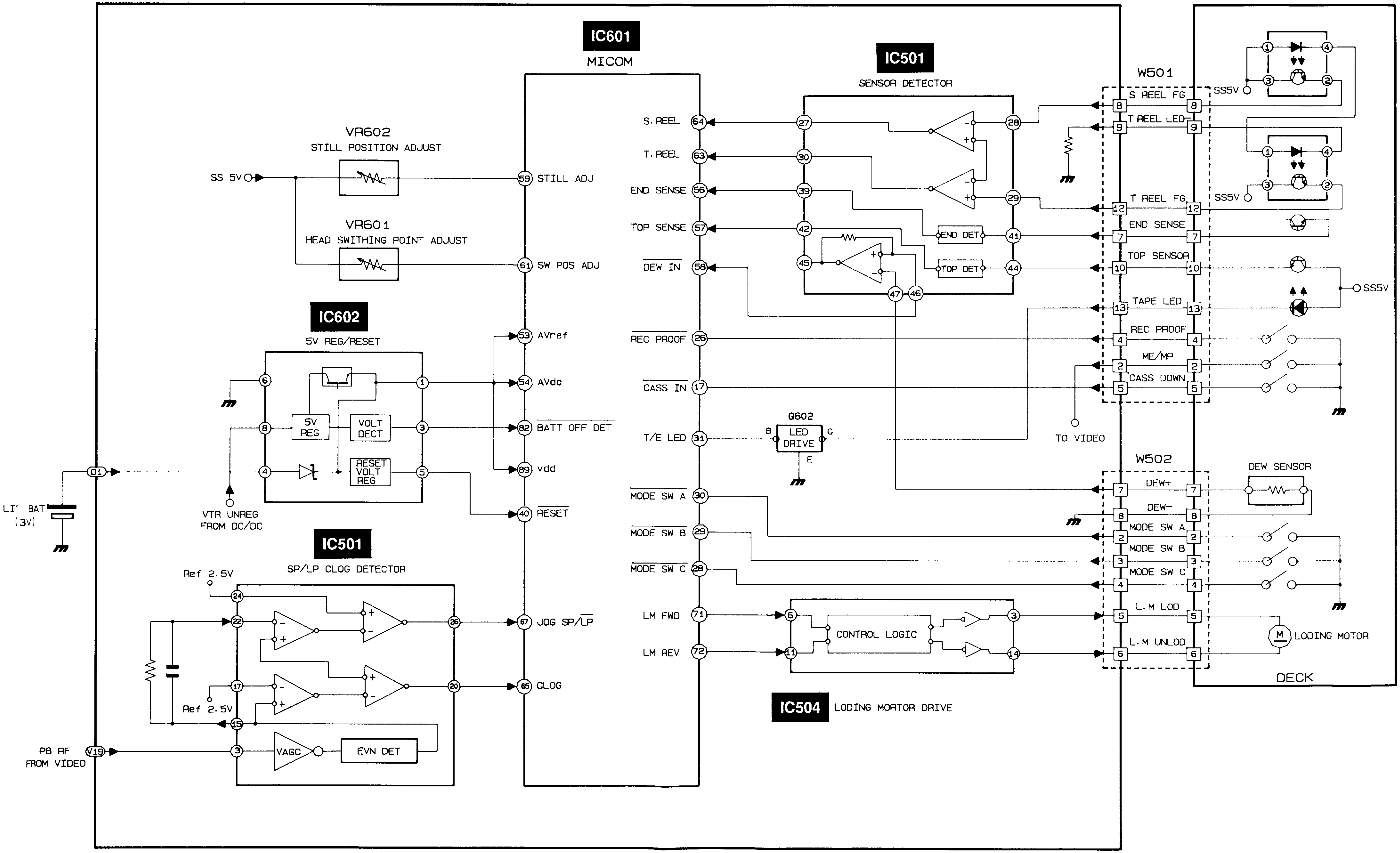
12-3. OVERALL BLOCK DIAGRAM (VTR)


CAM Y
CAM C
IR OUT
KEY SCAN 1.2
AF SO
AF SI
CAM CS
CAM SCK
IC601
MICOM
RE051
CN050
CN051
KEY SCAN
VTR FUNC SW
CAM/VTR
SELECT
CN451
CN961
MIC AMP
EVF VIDEO
VIDEO OUT
5V
VIDEO
RFU DC OUT
AUDIO
CN250
AUDIO OUT
CAM Y
CAM C
IC201
(VIDEO CS, SYSCON SCK, SYSCON SO)
PB RF
REC RF
Y/C PROCESS
START/STOP
TELE
WIDE
CASS DOWN
REC PROOF
ME/MP
BATT OFF DET
CAP PWM
CAP FG
CAP PG
DRUM PWM
DRUM FG
DRUM PG
5V RESET
IC401
AFM AUDIO
PROCESS
QM161
ERASE
IC503
CAP M
DRIVE
IC501
DRUM M
DRIVE
IC101
REC/PB
PRE AMP
DC/DC CONVERTER
VTR UNREG
CAM UNREG
SS 5V
VIDEO 5V
EVF 5V
DIG 5V
20V
15V
-9V
CAM 5V
VTR
CAM
IC901
CN901
CN801 BATT UNREG
LI BATT
W501
W101
HE VCC
CAP U
CAP V
CAP W
CFG VCC
C.M
CH2
CH1
FLYING
ERASE
D.M DRIVE

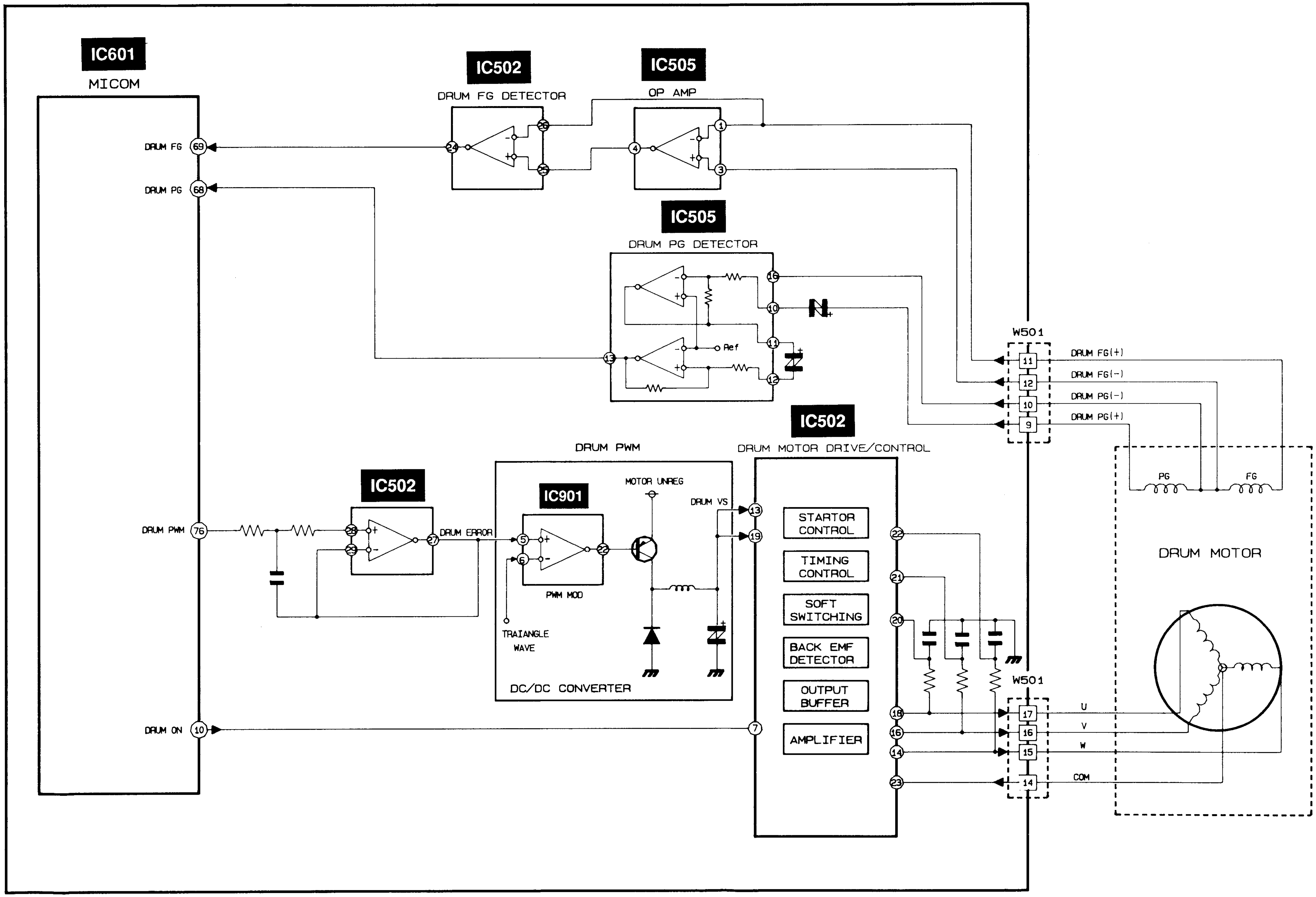
12-4. DC/DC CONVERTER


CN901
UNREG
UNREG
LI BATT
GND
GND
1
2
3
4
5
TO
BATTERY
TERMINAL
LPF
LPF
LPF
LPF
LPF
LPF
IC901
SWITCHING REGULATOR CONTROL
Vref
Vref
1V
UNIX &
S.C.P
REFERANCE
VOLTAGE
2.5V
ERROR AMP1
ERROR AMP2
ERROR AMP3
ERROR AMP4
ERROR
AMP5
COMP1
COMP2
COMP3
COMP4
COMP5
S.C.P
COMP
1V
TRIANGLE
O.S.C
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
Q901 Q903 Q908
PROTECTION
CIRCUIT
Q910 Q911
SWITCHING
SWITCHING
Q912 Q913
Q914 Q915
SWITCHING
SWITCHING
Q916 Q919
SWITCHING
Q918 Q918
L917
L918
L919
L908
L915
L914
TO
SYSCON/SERVO
D19
EVF 5V
D20
VTR 5V
D2
SS 5V
D7
DIG 5V
D10
DRUM VS
D11
CAP VS
D16
CAM 5V
VR905
5V ADJ
TO
SYSCON/SERVO
20V
D13
15V
D14
-9V
D15
L909
L910
L911
CAM 20V
RECT
CAM 15V
RECT
CAM -9V
RECT
VR903
15V ADJ
3
6
5
4
1
2
T901

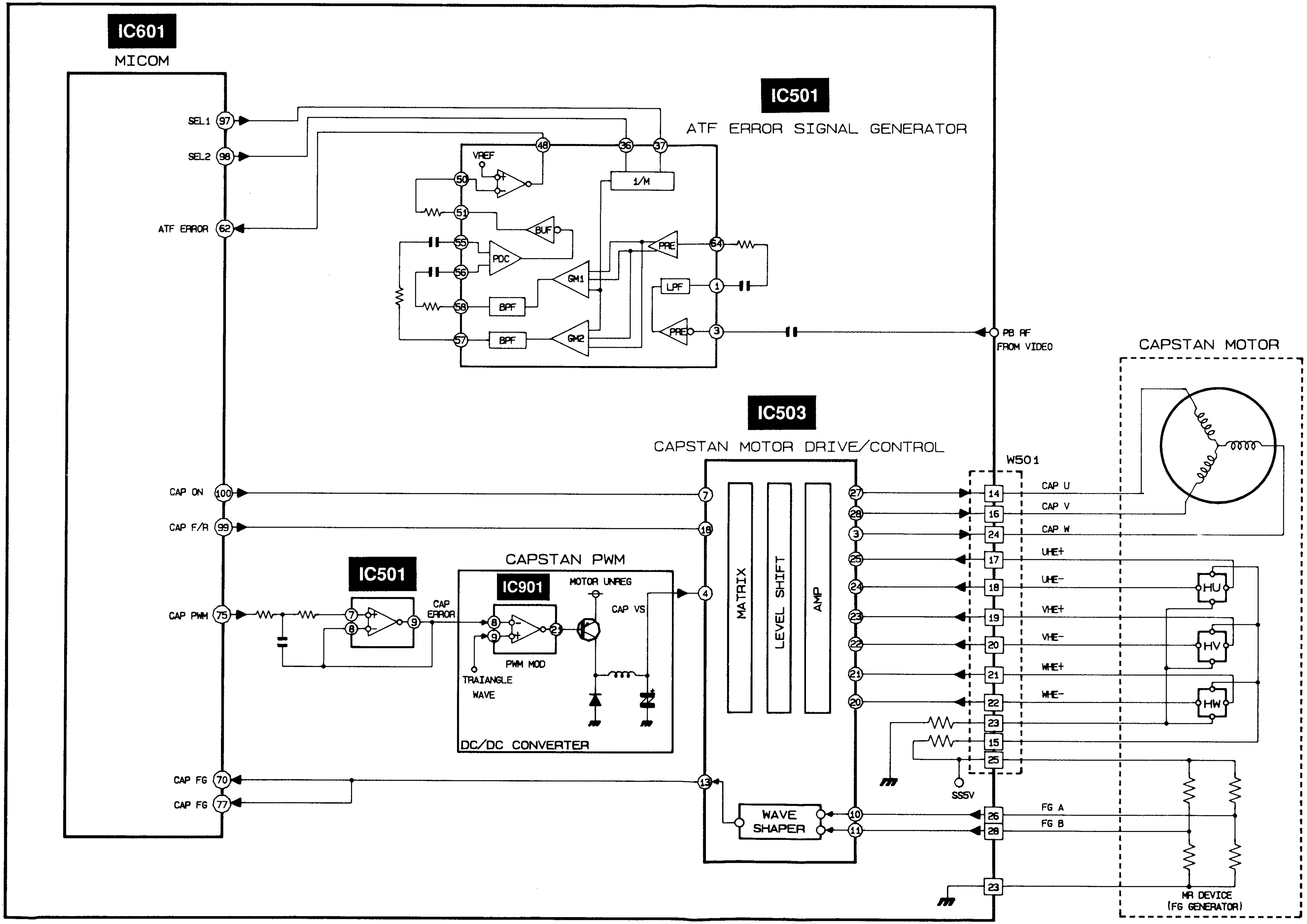
12-5. SYSTEM CONTROL


IC601
MICOM
IC501
SENSOR DETECTOR
VR602
STILL POSITION ADJUST
SS 5V
VR601
HEAD SWITHING POINT ADJUST
IC602
5V REG/RESET
5V REG
VOLT DECT
RESET VOLT REG
LI' BAT (3V)
D1
VTR UNREG FROM DC/DC
IC501
SP/LP CLOG DETECTOR
Ref 2.5V
Ref 2.5V
VAGC
EVN DET
PB RF FROM VIDEO
V19
STILL ADJ
SW POS ADJ
AVref
AVdd
BATT OFF DET
Vdd
RESET
JOG SP/LP
CLOG
S.REEL
T.REEL
END SENSE
TOP SENSE
DEW IN
REC PROOF
CASS IN
T/E LED
MODE SW A
MODE SW B
MODE SW C
LM FWD
LM REV
END DET
TOP DET
Q602
LED DRIVE
B
C
E
CONTROL LOGIC
IC504
LODING MORTOR DRIVE
TO VIDEO
W501
S REEL FG
T REEL LED
T REEL FG
END SENSE
TOP SENSOR
TAPE LED
REC PROOF
ME/MP
CASS DOWN
SS5V
SS5V
SS5V
W502
DEW+
DEW-
MODE SW A
MODE SW B
MODE SW C
L.M LOD
L.M UNLOD
DEW SENSOR
M
LODING MOTOR
DECK

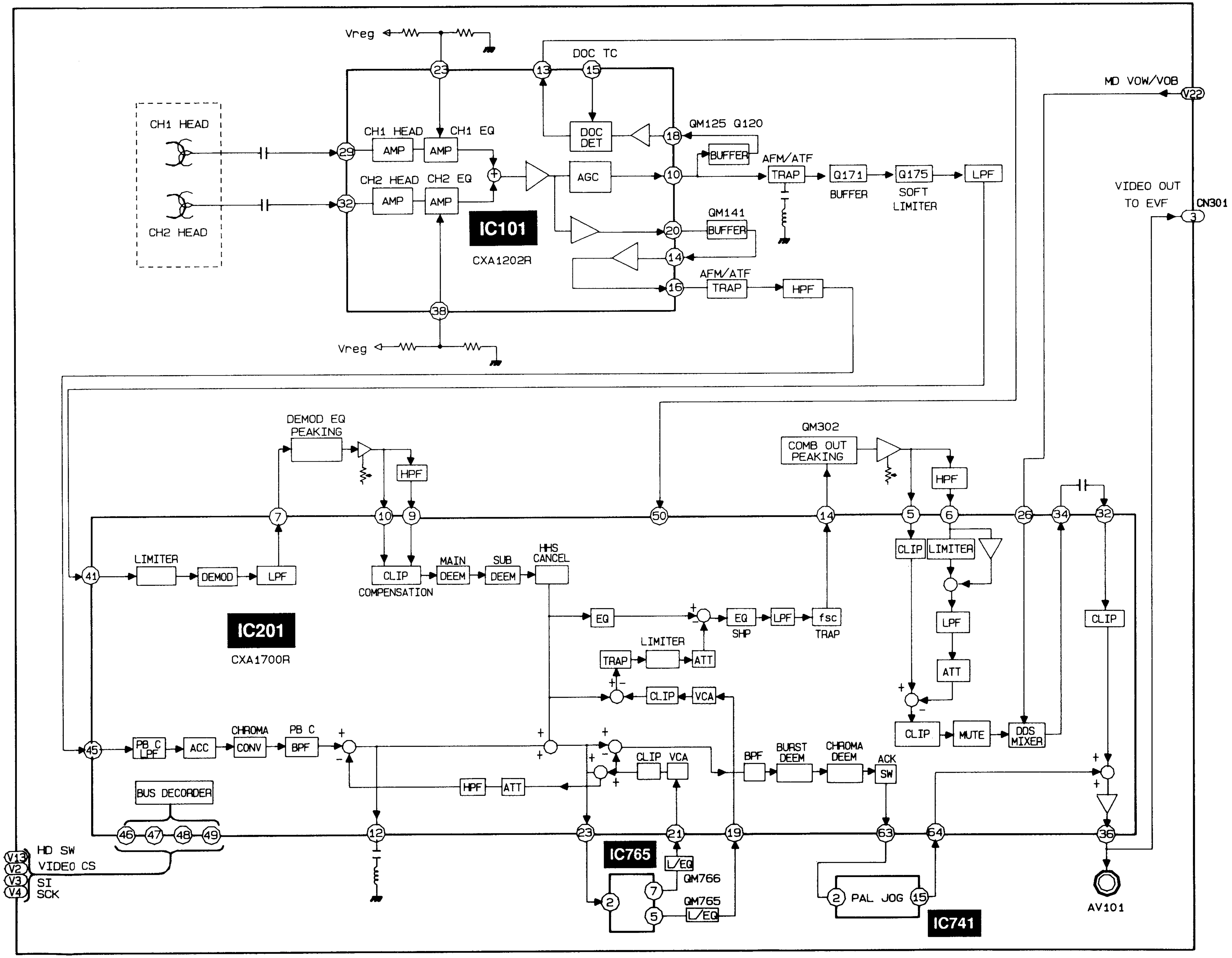
12-6. DRUM SERVO


IC601
MICOM
DRUM FG
69
DRUM PG
68
DRUM PWM
76
DRUM ON
10
IC502
DRUM FG DETECTOR
24
26
25
IC505
OP AMP
1
4
3
IC505
DRUM PG DETECTOR
16
10
11
13
12
Ref
W501
DRUM FG(+)
DRUM FG(-)
DRUM PG(-)
DRUM PG(+)
11
12
10
9
IC502
DRUM MOTOR DRIVE/CONTROL
DRUM PWM
IC502
28
29
27
DRUM ERROR
IC901
MOTOR UNREG
DRUM VS
5
6
22
PWM MOD
TRAIANGLE
WAVE
DC/DC CONVERTER
13
19
7
STARTOR
CONTROL
TIMING
CONTROL
SOFT
SWITCHING
BACK EMF
DETECTOR
OUTPUT
BUFFER
AMPLIFIER
22
21
20
18
16
14
23
W501
17
16
15
14
U
V
W
COM
PG
FG
DRUM MOTOR

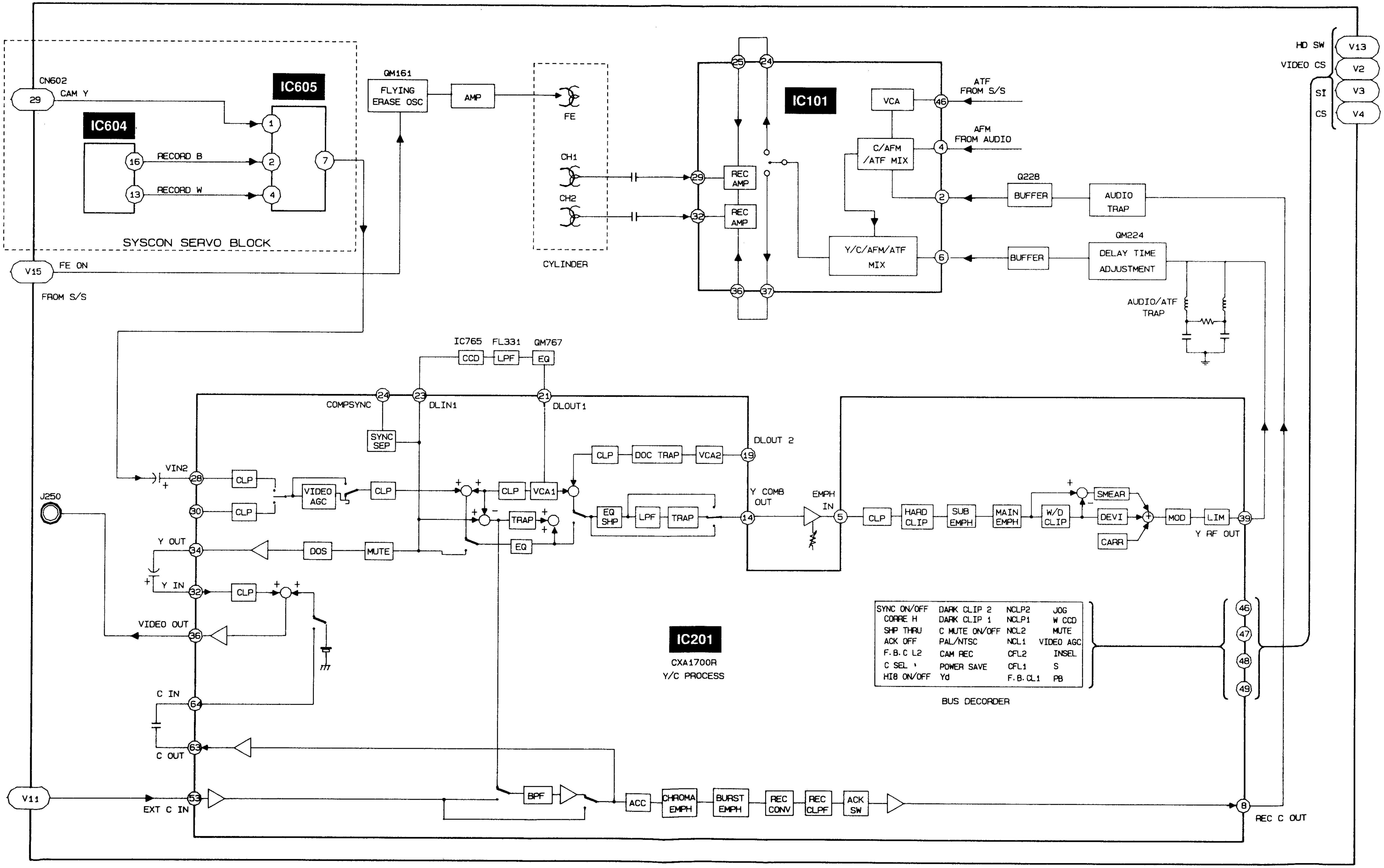
12-7. CAPSTAN SERVO


IC601
MICOM
SEL1 97
SEL2 98
ATF ERROR 62
CAP ON 100
CAP F/R 99
CAP PWM 75
CAP FG 70
CAP FG 77
IC501
ATF ERROR SIGNAL GENERATOR
VREF
48
36
37
1/M
50
51
BUF
55
PDC
56
GM1
58
BPF
57
BPF
GM2
PRE
64
LPF
1
PREO
3
PB RF
FROM VIDEO
IC503
CAPSTAN MOTOR DRIVE/CONTROL
7
18
4
13
MATRIX
LEVEL SHIFT
AMP
27
28
3
25
24
23
22
21
20
WAVE
SHAPER
10
11
IC501
7
8
9
CAP
ERROR
CAPSTAN PWM
IC901
MOTOR UNREG
CAP VS
8
9
2
PWM MOD
TRAIANGLE
WAVE
DC/DC CONVERTER
W501
14
16
24
17
18
19
20
21
22
23
15
25
26
28
23
CAP U
CAP V
CAP W
UHE+
UHE-
VHE+
VHE-
WHE+
WHE-
FG A
FG B
SS5V
CAPSTAN MOTOR
HU
HV
HW
MR DEVICE
(FG GENERATOR)

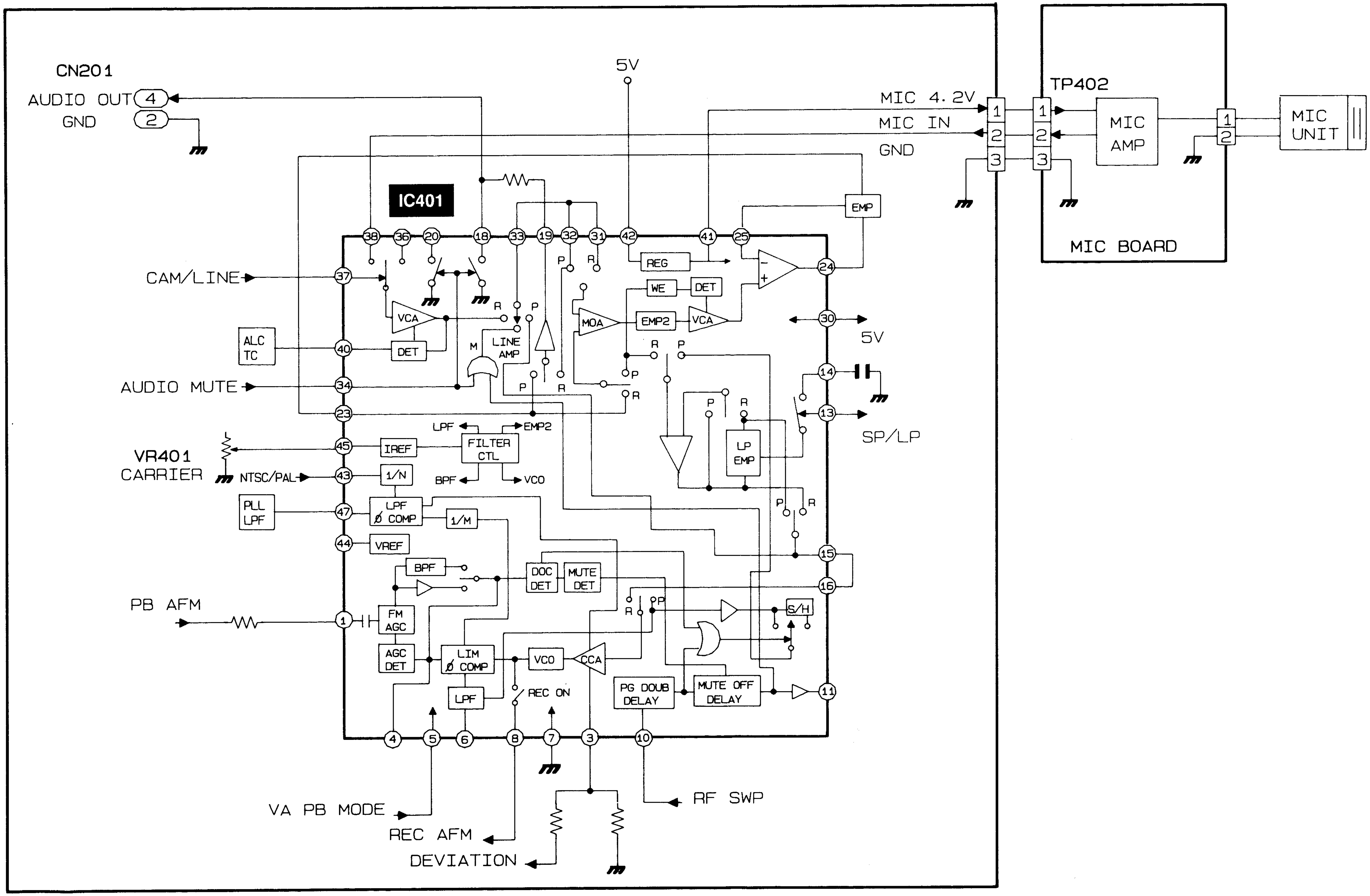
12-8. VIDEO PLAYBACK


Vreg
DOC TC
CH1 HEAD
CH1 HEAD
AMP
CH1 EQ
AMP
CH2 HEAD
AMP
CH2 EQ
AMP
CH2 HEAD
DOC
DET
AGC
QM125 Q120
BUFFER
AFM/ATF
TRAP
Q171
BUFFER
Q175
SOFT
LIMITER
LPF
IC101
CXA1202R
QM141
BUFFER
AFM/ATF
TRAP
HPF
Vreg
MD VOW/VOB
V22
VIDEO OUT
TO EVF
CN301
DEMOD EQ
PEAKING
HPF
QM302
COMB OUT
PEAKING
HPF
LIMITER
DEMOD
LPF
CLIP
COMPENSATION
MAIN
DEEM
SUB
DEEM
HHS
CANCEL
CLIP
LIMITER
LPF
ATT
CLIP
IC201
CXA1700R
EQ
EQ
SHP
LPF
fsc
TRAP
LIMITER
TRAP
ATT
CLIP
VCA
CLIP
MUTE
DDS
MIXER
PB C
LPF
ACC
CHROMA
CONV
PB C
BPF
CLIP
VCA
BPF
BURST
DEEM
CHROMA
DEEM
ACK
SW
HPF
ATT
BUS DECORDER
V13
HD SW
V2
VIDEO CS
V3
SI
V4
SCK
IC765
L/EQ
QM766
QM765
L/EQ
PAL JOG
IC741
AV101

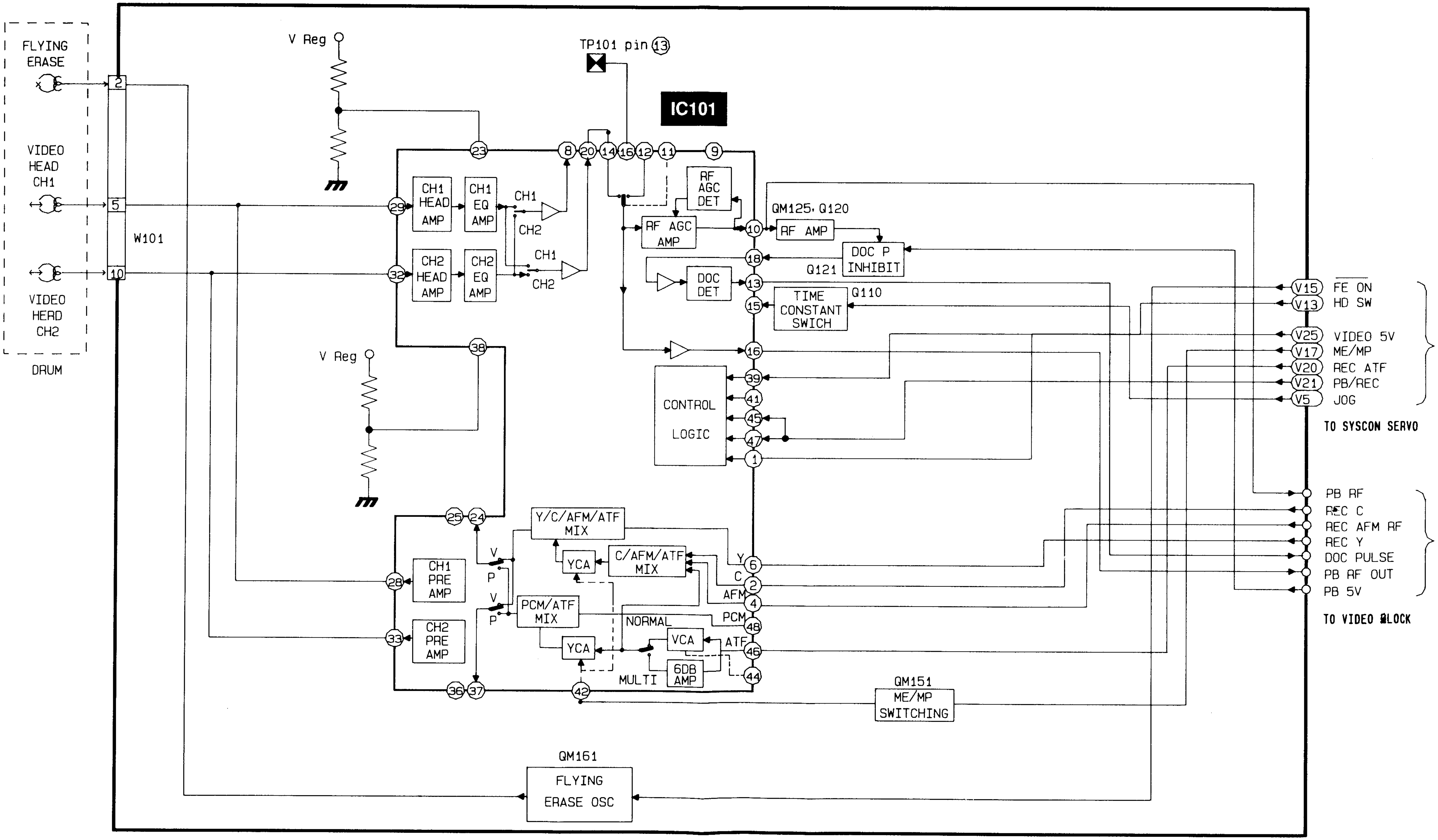
12-9. VIDEO RECORD


CN602
29
CAM Y
IC605
IC604
16
RECORD B
13
RECORD W
1
2
4
7
SYSCON SERVO BLOCK
V15
FE ON
FROM S/S
QM161
FLYING ERASE OSC
AMP
FE
CH1
CH2
CYLINDER
IC101
25
24
REC AMP
REC AMP
29
32
36
37
VCA
C/AFM /ATF MIX
Y/C/AFM/ATF MIX
46
4
2
6
ATF FROM S/S
AFM FROM AUDIO
Q228
BUFFER
AUDIO TRAP
QM224
BUFFER
DELAY TIME ADJUSTMENT
AUDIO/ATF TRAP
HD SW
VIDEO CS
SI
CS
V13
V2
V3
V4
IC765
FL331
QM767
CCD
LPF
EQ
COMPSYNC
24
23
21
DLIN1
DLOUT1
SYNC SEP
DLOUT 2
CLP
DOC TRAP
VCA2
19
J250
VIN2
28
30
CLP
CLP
VIDEO AGC
CLP
CLP
VCA1
TRAP
EQ
EQ SHP
LPF
TRAP
Y COMB OUT
14
EMPH IN
5
Y OUT
34
DOS
MUTE
Y IN
32
CLP
VIDEO OUT
36
CLP
HARD CLIP
SUB EMPH
MAIN EMPH
W/D CLIP
SMEAR
DEVI
CARR
MOD
LIM
39
Y RF OUT
SYNC ON/OFF
CORRE H
SHP THRU
ACK OFF
F.B.C L2
C SEL
HI8 ON/OFF
DARK CLIP 2
DARK CLIP 1
C MUTE ON/OFF
PAL/NTSC
CAM REC
POWER SAVE
Yd
NCLP2
NCLP1
NCL2
NCL1
CFL2
CFL1
F.B.CL1
JOG
W CCD
MUTE
VIDEO AGC
INSEL
S
PB
BUS DECORDER
46
47
48
49
IC201
CXA1700R
Y/C PROCESS
C IN
64
63
C OUT
V11
EXT C IN
53
BPF
ACC
CHROMA EMPH
BURST EMPH
REC CONV
REC CLPF
ACK SW
8
REC C OUT

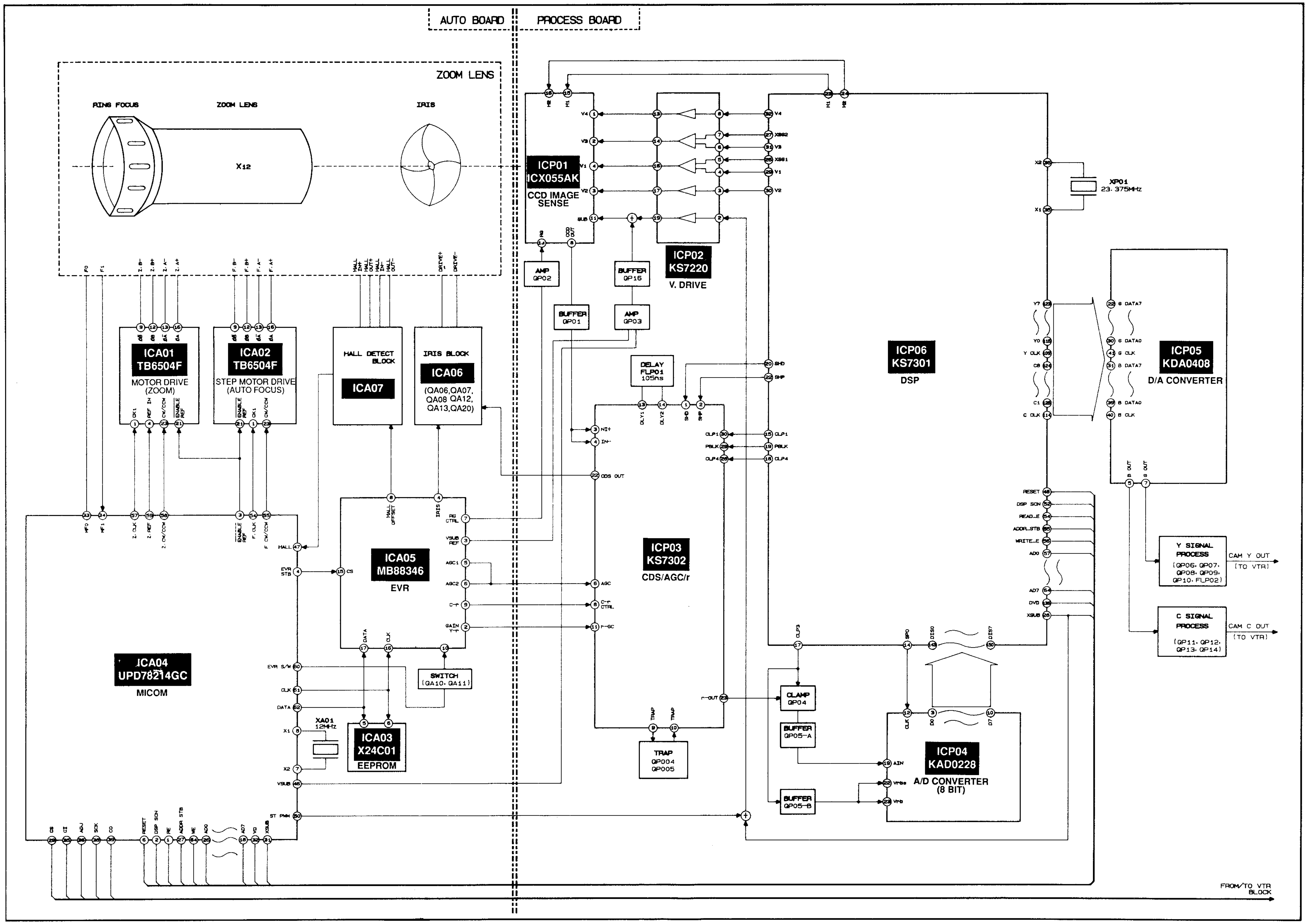
12-10. AUDIO


CN201
AUDIO OUT
4
GND
2
5V
MIC 4.2V
MIC IN
GND
TP402
MIC AMP
MIC UNIT
MIC BOARD
IC401
EMP
CAM/LINE
ALC TC
AUDIO MUTE
VCA
DET
LINE AMP
REG
WE
MOA
EMP2
5V
SP/LP
LP EMP
VR401 CARRIER
NTSC/PAL
IREF
FILTER CTL
LPF
EMP2
BPF
VCO
1/N
PLL LPF
LPF Ø COMP
1/M
VREF
BPF
DOC DET
MUTE DET
PB AFM
FM AGC
AGC DET
LIM Ø COMP
VCO
CCA
S/H
LPF
REC ON
PG DOUB DELAY
MUTE OFF DELAY
VA PB MODE
REC AFM
DEVIATION
RF SWP

12-11. PRE-AMP


FLYING
ERASE
VIDEO
HEAD
CH1
VIDEO
HEAD
CH2
DRUM
2
5
10
W101
V Reg
V Reg
TP101 pin ⑬
IC101
㉓
⑧
⑳
⑭
⑯
⑫
⑪
⑨
㉙
CH1
HEAD
AMP
CH1
EQ
AMP
CH1
CH2
㉜
CH2
HEAD
AMP
CH2
EQ
AMP
CH1
CH2
RF
AGC
DET
RF AGC
AMP
⑩
QM125, Q120
RF AMP
⑱
DOC P
INHIBIT
Q121
DOC
DET
⑬
⑮
TIME
CONSTANT
SWICH
Q110
⑯
㊳
CONTROL
LOGIC
㊴
㊶
㊺
㊼
①
V15 FE ON
V13 HD SW
V25 VIDEO 5V
V17 ME/MP
V20 REC ATF
V21 PB/REC
V5 JOG
TO SYSCON SERVO
㉕
㉔
Y/C/AFM/ATF
MIX
V
P
YCA
C/AFM/ATF
MIX
Y ⑥
C ②
AFM ④
㉘
CH1
PRE
AMP
V
P
PCM/ATF
MIX
NORMAL
PCM ㊽
VCA
ATF ㊻
㉝
CH2
PRE
AMP
YCA
6DB
AMP
MULTI
㊹
㊱
㊲
㊷
QM151
ME/MP
SWITCHING
PB RF
REC C
REC AFM RF
REC Y
DOC PULSE
PB RF OUT
PB 5V
TO VIDEO BLOCK
QM161
FLYING
ERASE OSC

12-12. AUTO/PROCESS


AUTO BOARD
PROCESS BOARD
ZOOM LENS
RING FOCUS
ZOOM LENS
IRIS
X12
ICA01
TB6504F
MOTOR DRIVE
(ZOOM)
ICA02
TB6504F
STEP MOTOR DRIVE
(AUTO FOCUS)
HALL DETECT BLOCK
ICA07
IRIS BLOCK
ICA06
(QA06,QA07,
QA08 QA12,
QA13,QA20)
ICA05
MB88346
EVR
ICA04
UPD78214GC
MICOM
ICA03
X24C01
EEPROM
XA01
12MHz
SWITCH
(QA10, QA11)
ICP01
ICX055AK
CCD IMAGE
SENSE
ICP02
KS7220
V. DRIVE
AMP
QP02
BUFFER
QP16
BUFFER
QP01
AMP
QP03
DELAY
FLP01
105ns
ICP03
KS7302
CDS/AGC/r
TRAP
QP004
QP005
ICP06
KS7301
DSP
XP01
23.375MHz
ICP05
KDA0408
D/A CONVERTER
CLAMP
QP04
BUFFER
QP05-A
BUFFER
QP05-B
ICP04
KAD0228
A/D CONVERTER
(8 BIT)
Y SIGNAL
PROCESS
(QP06, QP07,
QP08, QP09,
QP10, FLP02)
CAM Y OUT
(TO VTR)
C SIGNAL
PROCESS
(QP11, QP12,
QP13, QP14)
CAM C OUT
(TO VTR)
FROM/TO VTR
BLOCK

13. SCHEMATIC DIAGRAMS

Page

* SEMICONDUCTOR

* BLOCK IDENTIFICATION OF MAIN PCB

13-1. ADAPTOR ---------------------------- 13-4

13-2. DC/DC CONVERTER ---------------------- 13-5

13-3. SYSTEM CONTROL/SERVO ----------------- 13-6

13-4. VIDEO/AUDIO ------------------------- 13-8

13-5. MIC --------------------------------- 13-10

13-6. BATTERY TERMINAL -------------------- 13-10

13-7. FUNCTION ---------------------------- 13-11

13-8. REMOTE MODULE ----------------------- 13-12

13-9. A/V JACK ---------------------------- 13-13

13-10. DELAY ------------------------------ 13-13

13-11. EVF -------------------------------- 13-14

13-12. AUTO ------------------------------- 13-15

13-13. PROCESS ---------------------------- 13-16

NOTE

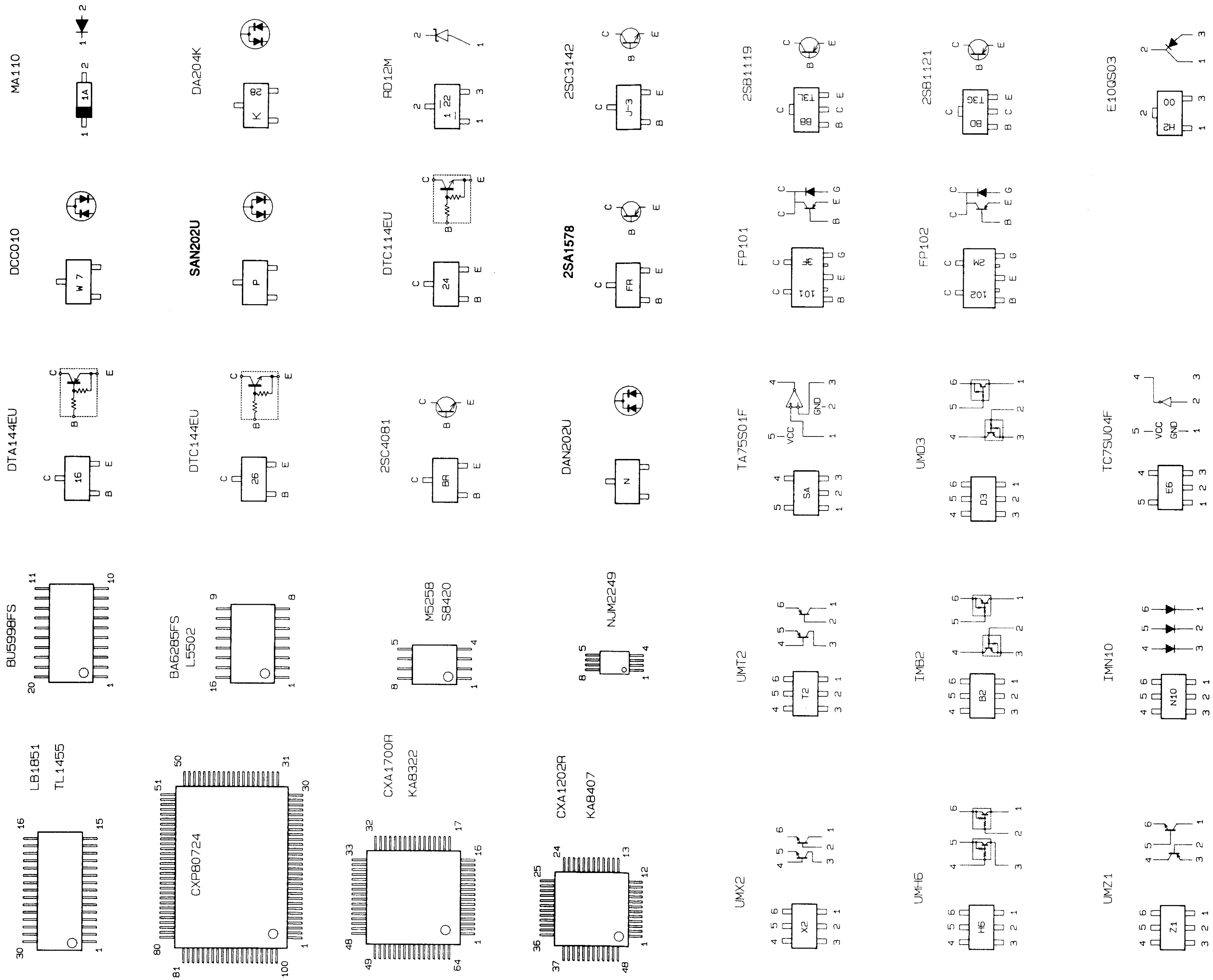
- For Schematic Diagram
  - Resistors are in ohms, 1/8W unless otherwise noted.
  - Circled numbers refer to waveforms.

SPECIAL NOTE :
All integratedcircuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostically sensitive (ES) devices" section of this service manual.

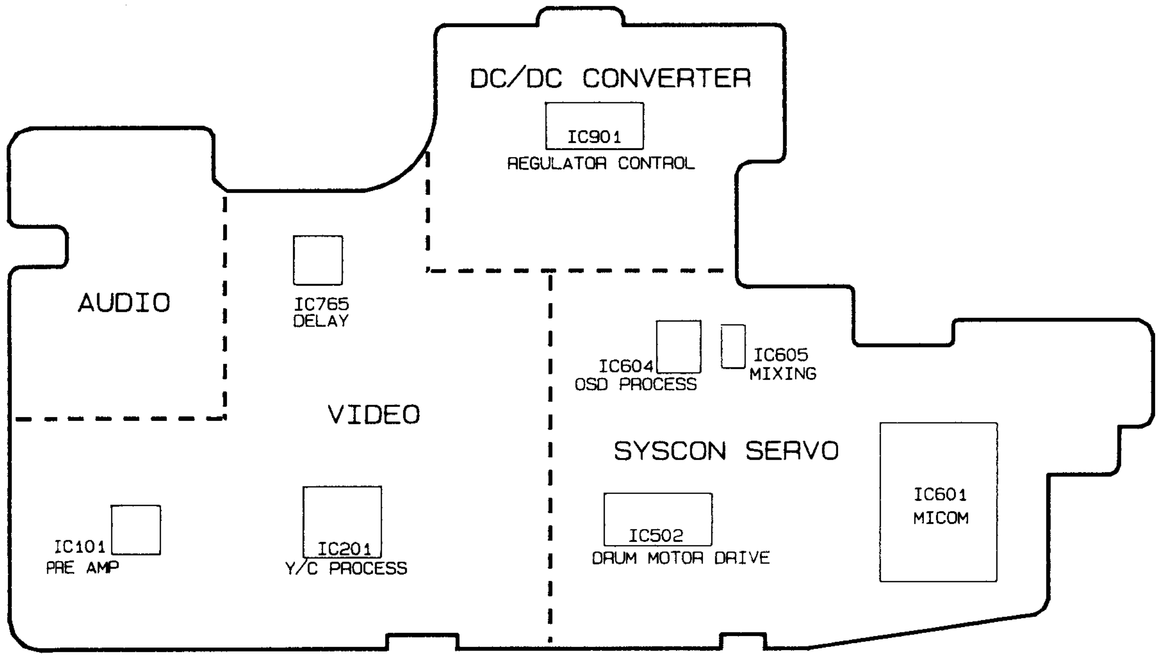
NOTE :
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the the parts list. And may be slightly different or amended since this drawing was prepared.

INFORTANT SAFETY NOTICES :
Components identified with the mark ! have the special characteristics for safety when replacing any of these components. Use only the same type.

* SEMICONDUCTOR

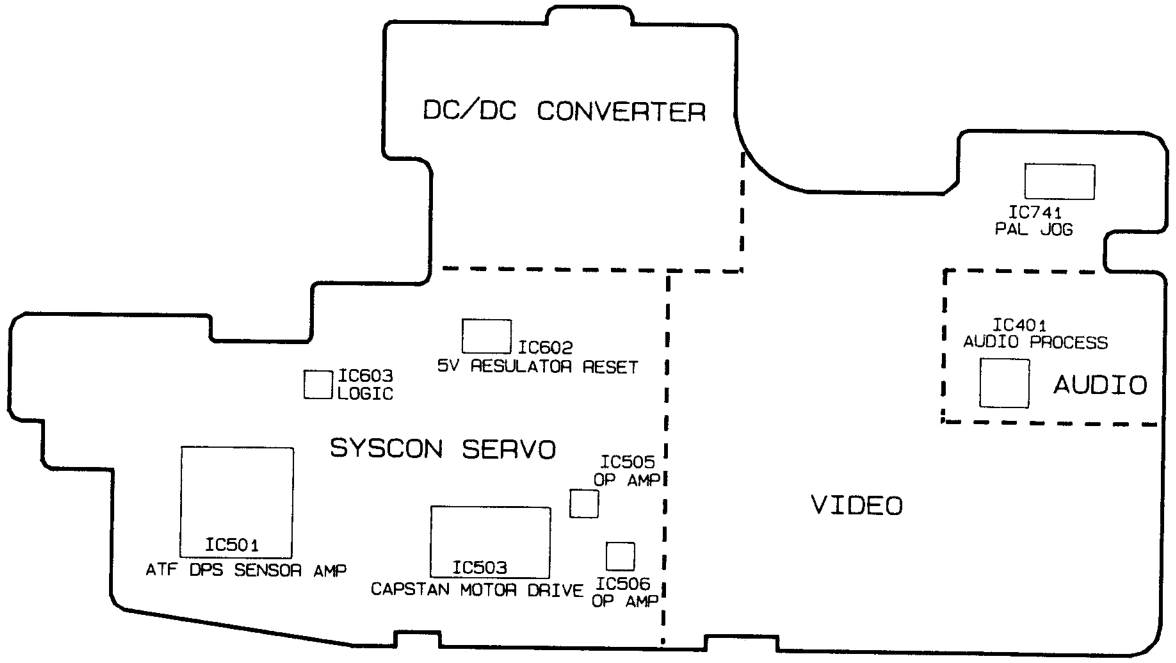

MA110
DA204K
RD12M
2SC3142
2SB1119
2SB1121
E10QS03
DCC010
SAN202U
DTC114EU
2SA1578
FP101
FP102
DTA144EU
DTC144EU
2SC4081
DAN202U
TA75S01F
UMD3
TC7SU04F
BU5998FS
BA6285FS
L5502
M5258
S8420
NJM2249
UMT2
IMB2
IMN10
LB1851
TL1455
CXP80724
CXA1700R
KA8322
CXA1202R
KA8407
UMX2
UMH6
UMZ1

* BLOCK IDENTIFICATION OF MAIN PCB


DC/DC CONVERTER
IC901
REGULATOR CONTROL
AUDIO
IC765
DELAY
VIDEO
IC604
OSD PROCESS
IC605
MIXING
SYSCON SERVO
IC601
MICOM
IC502
DRUM MOTOR DRIVE
IC101
PRE AMP
IC201
Y/C PROCESS

VTR MAIN

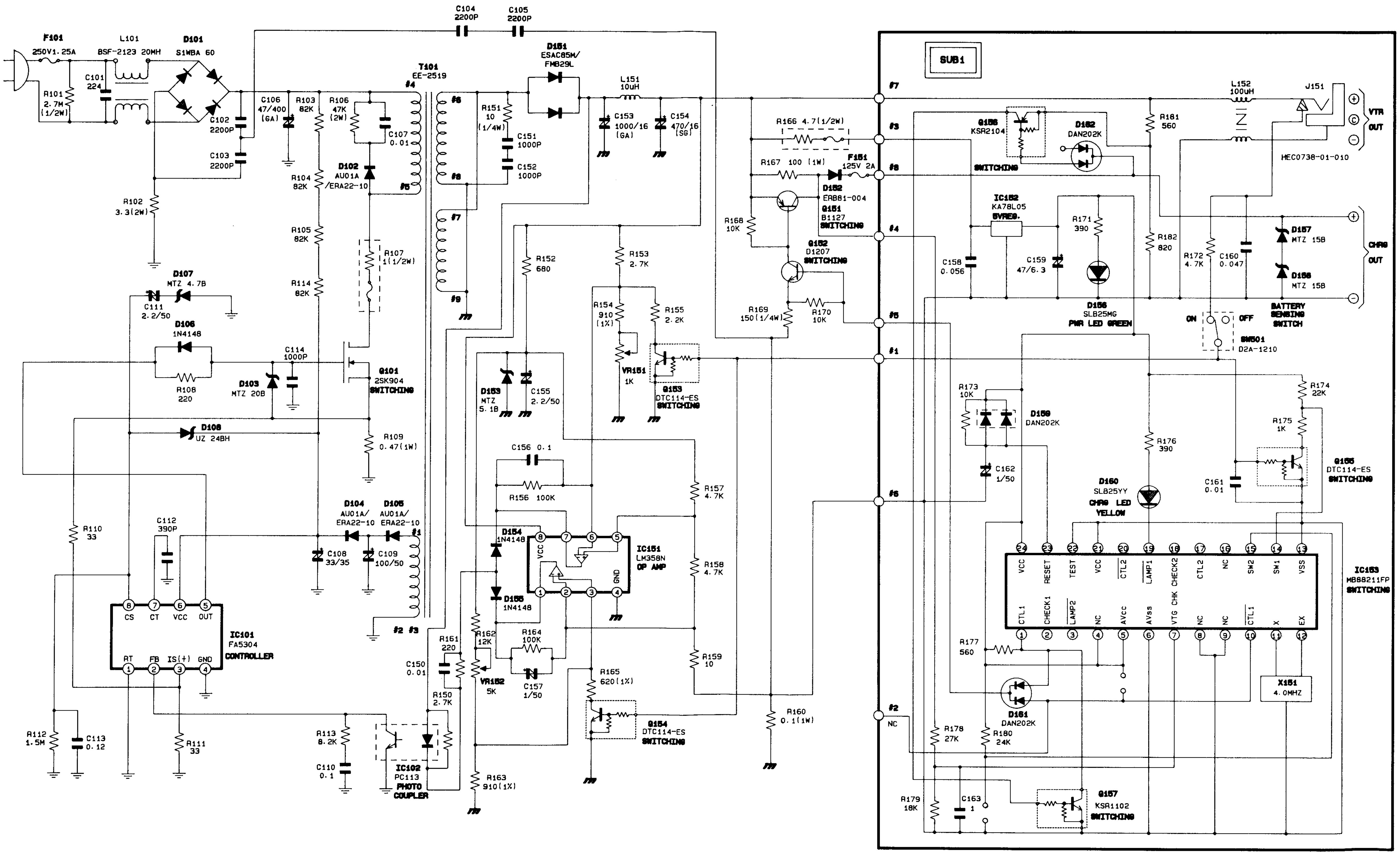
(TOP SIDE)


DC/DC CONVERTER
IC741
PAL JOG
IC401
AUDIO PROCESS
AUDIO
IC602
5V RESULATOR RESET
IC603
LOGIC
SYSCON SERVO
IC505
OP AMP
VIDEO
IC501
ATF DPS SENSOR AMP
IC503
CAPSTAN MOTOR DRIVE
IC506
OP AMP

VTR MAIN

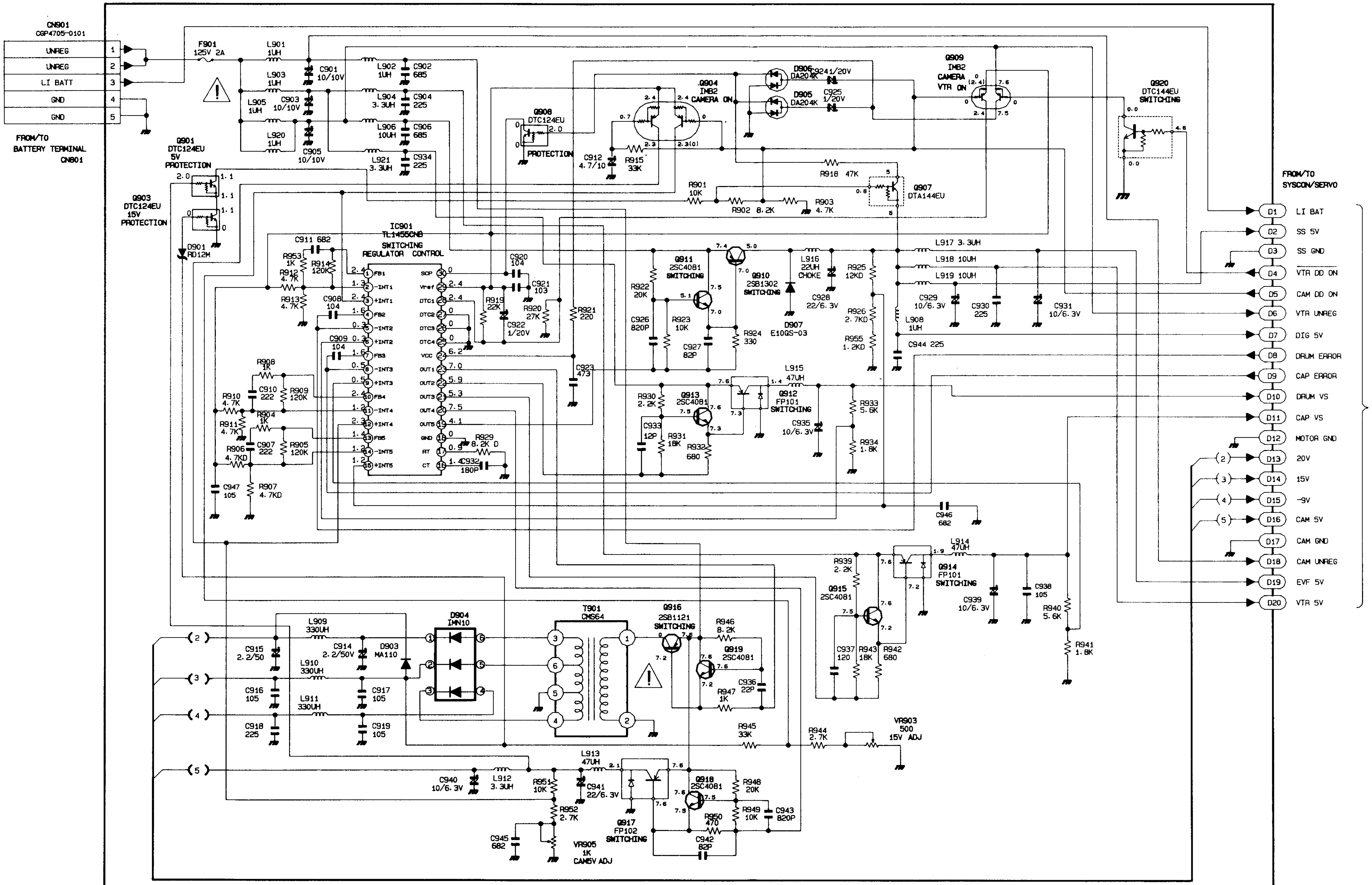
(BOTTOM SIDE)

13-1. ADAPTOR


F101
250V1.25A
L101
BSF-2123 20MH
D101
S1WBA 60
R101
2.7M
(1/2W)
C101
224
C102
2200P
C103
2200P
R102
3.3(2W)
C104
2200P
C105
2200P
C106
47/400
(GA)
R103
82K
R106
47K
(2W)
C107
0.01
D102
AU01A
/ERA22-10
R104
82K
R105
82K
R114
82K
R107
1(1/2W)
T101
EE-2519
#4
#5
#6
#8
#7
#9
#1
#2 #3
D107
MTZ 4.7B
C111
2.2/50
D106
1N4148
R108
220
C114
1000P
D103
MTZ 20B
Q101
2SK904
SWITCHING
D108
UZ 24BH
R109
0.47(1W)
D104
AU01A/
ERA22-10
D105
AU01A/
ERA22-10
C108
33/35
C109
100/50
R110
33
C112
390P
IC101
FA5304
CONTROLLER
CS
CT
VCC
OUT
RT
FB
IS(+)
GND
R112
1.5M
C113
0.12
R111
33
R113
8.2K
C110
0.1
IC102
PC113
PHOTO
COUPLER
D151
ESAC85M/
FMB29L
R151
10
(1/4W)
C151
1000P
C152
1000P
L151
10uH
C153
1000/16
(GA)
C154
470/16
(SG)
R152
680
R153
2.7K
R154
910
(1%)
R155
2.2K
VR151
1K
Q153
DTC114-ES
SWITCHING
D153
MTZ
5.1B
C155
2.2/50
C156 0.1
R156 100K
D154
1N4148
D155
1N4148
IC151
LM358N
OP AMP
VCC
GND
R157
4.7K
R158
4.7K
R159
10
R161
220
R162
12K
VR152
5K
R164
100K
C157
1/50
C150
0.01
R150
2.7K
R163
910(1%)
R165
620(1%)
Q154
DTC114-ES
SWITCHING
R160
0.1(1W)
R166 4.7(1/2W)
R167 100 (1W)
F151
125V 2A
D152
ERB81-004
Q151
B1127
SWITCHING
R168
10K
Q152
D1207
SWITCHING
R169
150(1/4W)
R170
10K
SUB1
#7
#3
#8
#4
#5
#1
#6
#2
NC
Q156
KSR2104
SWITCHING
D162
DAN202K
R181
560
L152
100uH
J151
VTR
OUT
HEC0738-01-010
IC152
KA78L05
5VREG.
R171
390
C158
0.056
C159
47/6.3
D156
SLB25MG
PWR LED GREEN
R182
820
R172
4.7K
C160
0.047
D157
MTZ 15B
D158
MTZ 15B
CHG
OUT
BATTERY
SENSING
SWITCH
ON
OFF
SW501
D2A-1210
R173
10K
D159
DAN202K
C162
1/50
R176
390
D160
SLB25YY
CHG LED
YELLOW
R174
22K
R175
1K
Q155
DTC114-ES
SWITCHING
C161
0.01
IC153
MB88211FP
SWITCHING
VCC
RESET
TEST
VCC
CTL2
LAMP1
CHK CHECK2
CTL2
NC
SW2
SW1
VSS
CTL1
CHECK1
LAMP2
NC
AVcc
AVss
VTG
NC
NC
CTL1
X
EX
R177
560
D161
DAN202K
X151
4.0MHZ
R178
27K
R180
24K
R179
18K
C163
1
Q157
KSR1102
SWITCHING

NOTE : ' ○ ' IS CONNECTED WITH JUMPER IN THE BOARD

13-2. DC/DC CONVERTER


CN901
CGP4705-0101
1 UNREG
2 UNREG
3 LI BATT
4 GND
5 GND
FROM/TO
BATTERY TERMINAL
CN801
F901
125V 2A
L901 1UH
L902 1UH
C901 10/10V
C902 685
L903 1UH
L904 3.3UH
C904 225
L905 1UH
C903 10/10V
L906 10UH
C906 685
L920 1UH
C905 10/10V
L921 3.3UH
C934 225
Q901
DTC124EU
5V
PROTECTION
Q903
DTC124EU
15V
PROTECTION
D901
RD12M
Q908
DTC124EU
PROTECTION
Q904
IMB2
CAMERA ON
D906
DA204K
C924
1/20V
D905
DA204K
C925
1/20V
C912
4.7/10
R915
33K
Q909
IMB2
CAMERA
VTR ON
Q920
DTC144EU
SWITCHING
R918 47K
Q907
DTA144EU
R901 10K
R902 8.2K
R903 4.7K
IC901
TL1455CNB
SWITCHING
REGULATOR CONTROL
FB1
-INT1
+INT1
FB2
-INT2
+INT2
FB3
-INT3
+INT3
FB4
-INT4
+INT4
FB5
-INT5
+INT5
SCP
Vref
DTC1
DTC2
DTC3
DTC4
VCC
OUT1
OUT2
OUT3
OUT4
OUT5
GND
RT
CT
C911 682
R953 1K
R914 120K
R912 4.7K
R913 4.7K
C908 104
C909 104
C920 104
C921 103
R919 22K
R920 27K
C922 1/20V
R921 220
C923 473
R929 8.2K D
C932 180P
R908 1K
C910 222
R909 120K
R910 4.7K
R904 1K
R911 4.7K
R906 4.7KD
C907 222
R905 120K
C947 105
R907 4.7KD
Q911
2SC4081
SWITCHING
Q910
2SB1302
SWITCHING
L916
22UH
CHOKE
R925 12KD
R922 20K
C926 820P
R923 10K
C927 82P
R924 330
D907
E10QS-03
C928 22/6.3V
R926 2.7KD
R955 1.2KD
L917 3.3UH
L918 10UH
L919 10UH
C929 10/6.3V
C930 225
C931 10/6.3V
L908 1UH
C944 225
L915 47UH
Q912
FP101
SWITCHING
R930 2.2K
Q913
2SC4081
C933 12P
R931 18K
R932 680
C935 10/6.3V
R933 5.6K
R934 1.8K
C946 682
FROM/TO
SYSCON/SERVO
D1 LI BAT
D2 SS 5V
D3 SS GND
D4 VTR DD ON
D5 CAM DD ON
D6 VTR UNREG
D7 DIG 5V
D8 DRUM ERROR
D9 CAP ERROR
D10 DRUM VS
D11 CAP VS
D12 MOTOR GND
D13 20V
D14 15V
D15 -9V
D16 CAM 5V
D17 CAM GND
D18 CAM UNREG
D19 EVF 5V
D20 VTR 5V
L914 47UH
Q914
FP101
SWITCHING
R939 2.2K
Q915
2SC4081
C938 105
C939 10/6.3V
R940 5.6K
R941 1.8K
C937 120
R943 18K
R942 680
L909 330UH
C915 2.2/50
C914 2.2/50V
D903 MA110
L910 330UH
C916 105
C917 105
L911 330UH
C918 225
C919 105
D904
IMN10
T901
CMS64
Q916
2SB1121
SWITCHING
R946 8.2K
Q919
2SC4081
C936 22P
R947 1K
R945 33K
R944 2.7K
VR903
500
15V ADJ
L913 47UH
C940 10/6.3V
L912 3.3UH
R951 10K
C941 22/6.3V
R952 2.7K
C945 682
VR905
1K
CAM5V ADJ
Q917
FP102
SWITCHING
Q918
2SC4081
R948 20K
R949 10K
C943 820P
R950 470
C942 82P

NOTE · "▭" IS CONNECTED WITH JUMPER IN THE BOARD

· VOLTAGE TAKEN IN THE PLAY MODE ( ) IS RECORD MODE

DC/DC CONV.

IC 901 (TL1455CNB)		
PIN NO	PLAY MODE	CAM MODE
1	2.4V	2.4V
2	1.3V	2.2V
3	2.4V	0.0V
4	1.6V	1.7V
5	0.3V	0.0V
6	0.3V	0.0V
7	1.5V	1.7V
8	0.5V	0.0V
9	0.5V	0.0V
10	2.4V	2.4V
11	1.2V	2.2V
12	2.3V	2.3V
13	1.4V	1.3V
14	1.2V	1.2V
15	1.2V	1.2V
16	1.4V	1.4V
17	0.9V	1.9V
18	0.0V	0.0V
19	4.0V	3.4V
20	7.5V	7.5V
21	5.3V	7.0V
22	5.9V	7.0V
23	7.0V	7.0V
24	6.2V	6.1V
25	0.0V	0.0V
26	0.0V	0.0V
27	0.0V	0.0V
28	2.4V	2.4V
29	2.4V	2.4V
30	0.0V	0.0V

LOCN	NO	PLAY MODE	CAM MODE
Q901	E	1.1V	0.0V
	B	2.0V	5.1V
	C	1.1V	0.0V
Q903	E	0.0V	0.0V
	B	0.0V	3.1V
	C	1.1V	0.0V
Q904	1	2.3V	1.2V
	2	0.7V	3.9V
	3	2.4V	2.4V
	4	2.3V	1.2V
	5	0.0V	4.4V
	6	2.4V	2.4V
Q907	E	5.0V	5.0V
	B	0.8V	2.6V
	C	5.0V	5.0V
Q908	E	0.0V	0.0V
	B	2.0V	2.0V
	C	0.0V	0.0V
Q909	1	7.5V	7.5V
	2	0.0V	4.4V
	3	0.0V	2.4V
	4	7.5V	1.3V
	5	0.0V	0.0V
	6	7.5V	7.5V
Q910	E	7.4V	7.4V
	B	7.0V	7.0V
	C	5.0V	5.0V
Q911	E	7.0V	7.0V
	B	5.0V	6.4V
	C	7.5V	7.5V
Q912	E	7.5V	7.5V
	B	7.3V	7.3V
	C	1.4V	1.4V
Q913	E	7.3V	7.3V
	B	7.5V	7.5V
	C	7.5V	7.5V
Q914	E	7.5V	7.5V
	B	7.2V	7.2V
	C	1.9V	0.0V
Q915	E	7.2V	7.2V
	B	7.5V	7.5V
	C	7.5V	7.5V
Q916	1	7.6V	7.4V
	2	7.2V	7.1V
	3	0.0V	0.0V
Q917	4	7.6V	7.4V
	5	7.6V	6.9V
	6	2.1V	5.1V
Q918	1	7.5V	6.8V
	2	7.5V	6.0V
	3	7.5V	7.3V
Q919	4	7.2V	7.2V
	5	7.5V	7.5V
	6	7.5V	7.5V

13-3. SYSTEM CONTROL/SERVO

The schematic diagram of "SYSTEM CONTROL/SERVO" is on page 13-19.

IC 501 (KA8322)

PIN NO	PLAY BACK	RECORD	STOP
1	1.7V	1.7V	0.0V
2	4.6V	0.0V	2.2V
3	2.4V	2.4V	2.4V
4	2.4V	2.4V	2.4V
5	0.0V	0.0V	0.0V
6	0.0V	0.0V	0.0V
7	1.3V	1.3V	0.0V
8	1.3V	1.3V	0.0V
9	1.3V	1.3V	0.0V
10	2.4V	2.4V	2.4V
11	2.4V	2.4V	2.4V
12	2.4V	2.4V	2.4V
13	0.0V	0.0V	0.0V
14	2.9V	2.9V	0.0V
15	3.1V	2.5V	2.5V
16	2.4V	2.4V	2.4V
17	2.4V	2.4V	2.4V
18	4.7V	0.7V	4.7V
19	4.7V	0.7V	4.7V
20	0.0V	0.0V	4.7V
21	0.0V	0.0V	0.0V
22	2.6V	2.6V	2.6V
23	0.0V	0.7V	4.8V
24	0.0V	0.7V	4.8V
25	0.8V	0.8V	0.8V
26	0.0V	0.0V	4.8V
27			
28			
29			
30			
31	0.0V	0.0V	0.0V
32	0.0V	0.0V	0.0V
33	0.0V	0.0V	0.0V
34	2.4V	2.4V	2.4V
35	2.4V	2.4V	2.4V
36	2.1V	2.5V	0.0V
37	2.3V	2.3V	0.0V
38	4.9V	4.9V	4.9V
39	0.0V	0.0V	0.0V
40	0.0V	0.0V	0.0V
41	0.0V	0.0V	0.0V
42	0.0V	0.0V	0.0V
43	0.0V	0.0V	0.0V
44	0.0V	0.0V	0.0V
45	4.4V	4.4V	4.4V
46			
47	0.0V	0.0V	1.7V
48	2.3V	0.0V	2.4V
49	3.1V	2.5V	2.4V
50	2.4V	3.3V	2.4V
51	2.5V	2.5V	2.5V
52	2.5V	2.5V	2.5V
53	4.6V	4.6V	0.0V
54	2.4V	2.4V	2.4V
55	2.4V	2.4V	2.4V
56	2.4V	2.4V	2.4V
57	2.4V	0.0V	0.0V
58	2.4V	0.0V	0.0V
59	2.2V	0.0V	1.5V
60	2.4V	2.4V	2.4V
61	4.9V	4.9V	4.9V
62	3.5V	3.5V	3.5V
63	2.4V	2.4V	2.4V
64	3.1V	2.5V	2.5V

IC 502 (TPIC1327DF)

PIN NO	PLAY BACK	RECORD	STOP
1	0.0V	0.0V	0.0V
2	0.0V	0.0V	0.0V
3	0.0V	0.0V	0.0V
4	0.0V	0.0V	0.0V
5	0.0V	0.0V	0.0V
6	1.3V	1.3V	0.0V
7	4.6V	4.6V	0.0V
8	6.7V	6.7V	0.0V
9	6.7V	6.7V	0.0V
10	0.0V	0.0V	0.0V
11	0.0V	0.0V	0.0V
12	7.5V	7.5V	7.5V
13	1.4V	1.4V	0.0V
14	0.7V	0.7V	0.0V
15	0.0V	0.0V	0.0V
16	0.7V	0.7V	0.0V
17	0.0V	0.0V	0.0V
18	0.7V	0.7V	0.0V
19	0.7V	1.5V	0.0V
20	0.7V	0.7V	0.0V
21	0.7V	0.7V	0.0V
22	0.7V	0.7V	0.0V
23	0.7V	0.7V	0.0V
24	3.6V	3.6V	2.4V
25	0.6V	1.7V	2.4V
26	3.6V	3.6V	2.4V
27	0.6V	0.6V	0.6V
28	0.6V	0.6V	0.6V
29	0.6V	0.6V	0.0V
30	7.5V	7.5V	7.5V

IC 503 (LB1851M)

PIN NO	PLAY BACK	RECORD	STOP
1	0.0V	0.0V	0.0V
2	0.0V	0.0V	0.0V
3	0.9V	0.9V	0.0V
4	1.9V	1.9V	0.0V
5	7.5V	7.5V	7.5V
6	4.9V	4.9V	4.9V
7	4.6V	4.6V	0.0V
8	0.7V	0.7V	0.0V
9	0.7V	0.7V	0.0V
10	2.4V	2.4V	0.0V
11			
12	2.4V	2.4V	0.0V
13	2.4V	2.4V	4.8V
14	0.0V	0.0V	0.0V
15	0.0V	0.0V	0.0V
16	0.0V	0.0V	0.0V
17	0.0V	0.0V	0.0V
18	4.6V	4.6V	0.0V
19	0.6V	0.6V	0.0V
20	1.5V	1.5V	1.5V
21	1.5V	1.5V	1.5V
22	1.9V	1.9V	1.9V
23	1.9V	1.9V	1.9V
24	2.3V	2.3V	2.3V
25	2.3V	2.3V	2.3V
26	0.0V	0.0V	0.0V
27	0.9V	0.9V	0.0V
28	0.9V	0.9V	0.0V
29	0.0V	0.0V	0.0V
30	0.0V	0.0V	0.0V

IC 504 (BA6285FS)

PIN NO	PLAY BACK	RECORD	STOP
1	0.0V	0.0V	0.0V
2	0.0V	0.0V	0.0V
3	0.0V	0.0V	0.0V
4	7.6V	7.6V	7.6V
5	7.6V	7.6V	7.6V
6	0.0V	0.0V	0.0V
7	0.0V	0.0V	0.0V
8	0.0V	0.0V	0.0V
9	0.0V	0.0V	0.0V
10	0.0V	0.0V	0.0V
11	0.0V	0.0V	0.0V
12	4.9V	4.9V	4.9V
13	0.0V	0.0V	0.0V
14	0.5V	0.5V	0.5V
15	0.0V	0.0V	0.0V
16	0.0V	0.0V	0.0V

IC 505 (TA75S01F)

PIN NO	PLAY BACK	RECORD	STOP
1	2.4V	2.4V	2.4V
2	0.0V	0.0V	0.0V
3	2.4V	2.4V	2.4V
4	2.4V	2.4V	2.4V
5	5.0V	5.0V	5.0V

IC 506 (TA75S01F)

PIN NO	PLAY BACK	RECORD	STOP
1	2.5V	2.5V	2.5V
2	0.0V	0.0V	0.0V
3	2.5V	2.5V	2.5V
4	5.0V	5.0V	5.0V
5	1.0V	1.0V	1.0V

IC 601 (CXP80724)

PIN NO	PLAY BACK	RECORD	STOP
1	0.0V	0.0V	0.0V
2	4.3V	0.0V	0.0V
3	0.0V	0.0V	0.0V
4	4.6V	4.6V	4.6V
5	0.0V	0.0V	4.7V
6	0.0V	0.0V	0.0V
7	4.1V	4.1V	4.8V
8	0.0V	0.0V	0.0V
9	4.6V	4.6V	4.8V
10	4.6V	4.6V	0.0V
11	4.6V	4.6V	4.6V
12	0.0V	0.0V	0.0V
13	0.0V	0.0V	0.0V
14	0.0V	0.0V	0.0V
15	0.0V	0.0V	0.0V
16	4.7V	4.7V	4.7V
17	0.0V	0.0V	0.0V
18	4.7V	4.7V	4.7V
19	4.7V	4.7V	4.7V
20	4.8V	4.8V	4.8V
21	4.8V	4.8V	4.8V
22	4.8V	4.8V	4.8V
23	4.8V	4.8V	1.0V
24	0.0V	4.8V	0.0V
25	0.0V	4.8V	0.0V
26	4.8V	0.0V	4.8V
27	1.6V	1.6V	0.3V
28	4.8V	4.8V	0.0V
29	0.0V	4.8V	0.0V
30	4.8V	4.8V	0.0V
31	0.0V	0.0V	0.0V
32	0.0V	0.0V	0.0V
33	1.9V	1.9V	0.0V
34	0.0V	0.0V	0.0V
35	4.1V	4.1V	4.1V
36	0.2V	0.2V	0.2V
37	4.7V	4.7V	4.7V
38	4.8V	4.8V	4.8V
39	0.0V	0.0V	0.0V
40	4.6V	4.6V	4.6V
41	0.0V	0.0V	0.0V
42	2.5V	2.5V	2.5V
43			
44	4.6V	4.6V	4.6V
45	4.6V	4.6V	4.6V
46	4.0V	1.8V	1.8V
47	4.5V	4.5V	4.5V
48	0.0V	0.0V	0.0V
49	0.0V	0.0V	0.0V
50	4.8V	4.8V	4.8V
51	4.8V	4.8V	4.8V
52	0.0V	0.0V	0.0V
53	4.6V	4.6V	4.6V
54	4.6V	4.6V	0.0V
55	4.4V	4.4V	4.4V
56	0.0V	0.0V	0.0V
57	0.0V	0.0V	0.0V
58	4.4V	4.4V	4.4V
59	3.0V	3.0V	3.0V
60	3.8V	3.8V	3.8V
61	0.0V	0.0V	2.3V
62	2.4V	0.4V	2.4V
63			
64			
65	0.0V	0.0V	4.8V
66	0.2V	0.2V	2.4V
67	0.0V	0.0V	4.8V
68	0.0V	0.0V	0.0V
69	2.4V	2.4V	3.0V
70	2.4V	2.4V	4.8V
71	0.0V	0.0V	0.0V
72	0.0V	0.0V	0.0V
73	0.0V	0.0V	0.0V
74	0.0V	0.0V	0.0V
75	1.3V	1.3V	0.0V
76	0.5V	0.5V	0.0V
77	2.4V	2.4V	4.8V
78	1.6V	0.0V	1.1V
79	1.6V	0.0V	1.1V
80	1.7V	0.0V	1.4V
81	4.6V	4.6V	4.6V
82	4.8V	4.8V	0.0V
83	0.0V	0.0V	4.5V
84	0.0V	0.0V	0.0V
85	4.7V	1.8V	1.8V
86	1.5V	1.5V	1.5V
87	2.4V	2.4V	2.4V
88	0.0V	0.0V	0.0V
89	4.7V	4.7V	4.7V
90	4.7V	4.7V	4.7V
91	0.0V	0.0V	0.0V
92	0.0V	0.0V	0.0V
93	4.6V	4.6V	2.4V
94	4.6V	4.6V	4.6V
95	4.6V	4.6V	0.0V
96	2.3V	2.3V	0.0V
97	2.0V	2.6V	0.0V
98	2.3V	2.3V	0.0V
99	4.6V	4.6V	0.0V
100	4.6V	4.6V	0.0V

IC 602 (S8420BF)			
PIN NO	PLAY BACK	RECORD	STOP
1	5.0V	5.0V	5.0V
2	0.0V	0.0V	0.0V
3	5.0V	5.0V	5.0V
4	3.0V	3.0V	3.0V
5	5.0V	5.0V	5.0V
6	0.0V	0.0V	0.0V
7	5.0V	5.0V	5.0V
8	7.0V	7.0V	7.0V

IC 603 (TC7SU04F)			
PIN NO	PLAY BACK	RECORD	STOP
1	0.0V	0.0V	0.0V
2	0.0V	0.0V	2.3V
3	0.0V	0.0V	0.0V
4	1.7V	1.7V	2.3V
5	4.7V	4.7V	4.7V

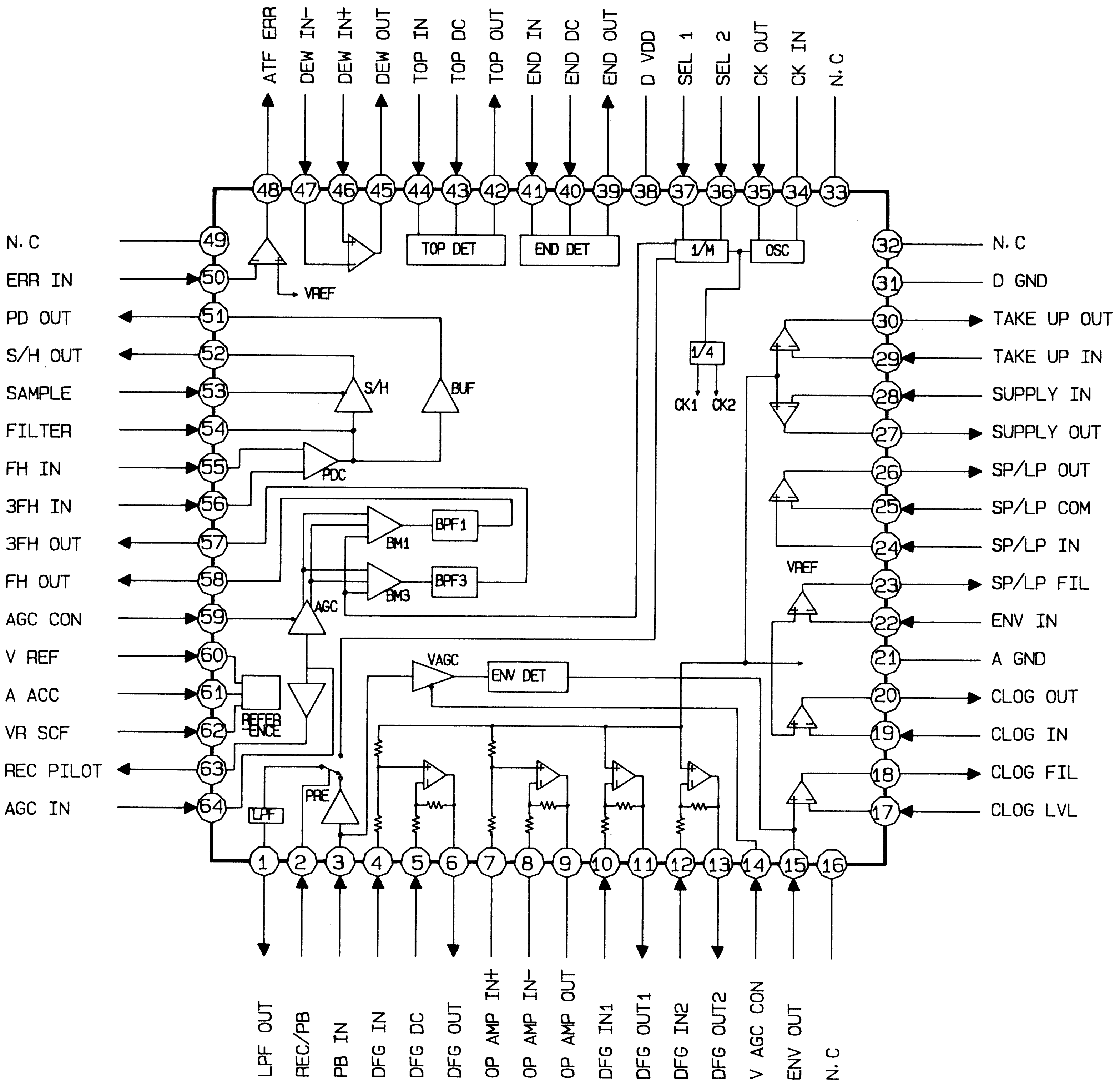
IC 604 (BU5998FS)			
PIN NO	PLAY BACK	RECORD	STOP
1	4.9V	4.9V	4.9V
2	4.5V	4.5V	4.5V
3	0.0V	0.0V	0.0V
4	4.0V	1.6V	1.6V
5	4.9V	4.9V	4.9V
6	4.9V	4.9V	4.9V
7	0.0V	0.0V	0.0V
8	4.9V	4.9V	0.0V
9	4.9V	4.9V	4.9V
10	0.0V	0.0V	0.0V
11	0.0V	0.0V	0.0V
12	0.0V	0.0V	0.0V
13	0.0V	0.0V	0.0V
14	0.0V	0.0V	0.0V
15	0.0V	0.0V	0.0V
16	0.0V	0.0V	0.0V
17	0.0V	0.0V	0.0V
18	4.4V	4.4V	4.4V
19	0.0V	0.0V	1.3V
20	4.4V	4.4V	4.4V

IC 605 (NJM2249M)			
PIN NO	PLAY BACK	RECORD	STOP
1	1.9V	1.9V	1.9V
2	0.0V	0.0V	0.0V
3	2.3V	2.3V	2.3V
4	0.0V	0.0V	0.0V
5	2.7V	2.7V	0.0V
6	4.9V	4.9V	4.9V
7	1.1V	1.1V	1.1V
8	0.0V	0.0V	0.0V

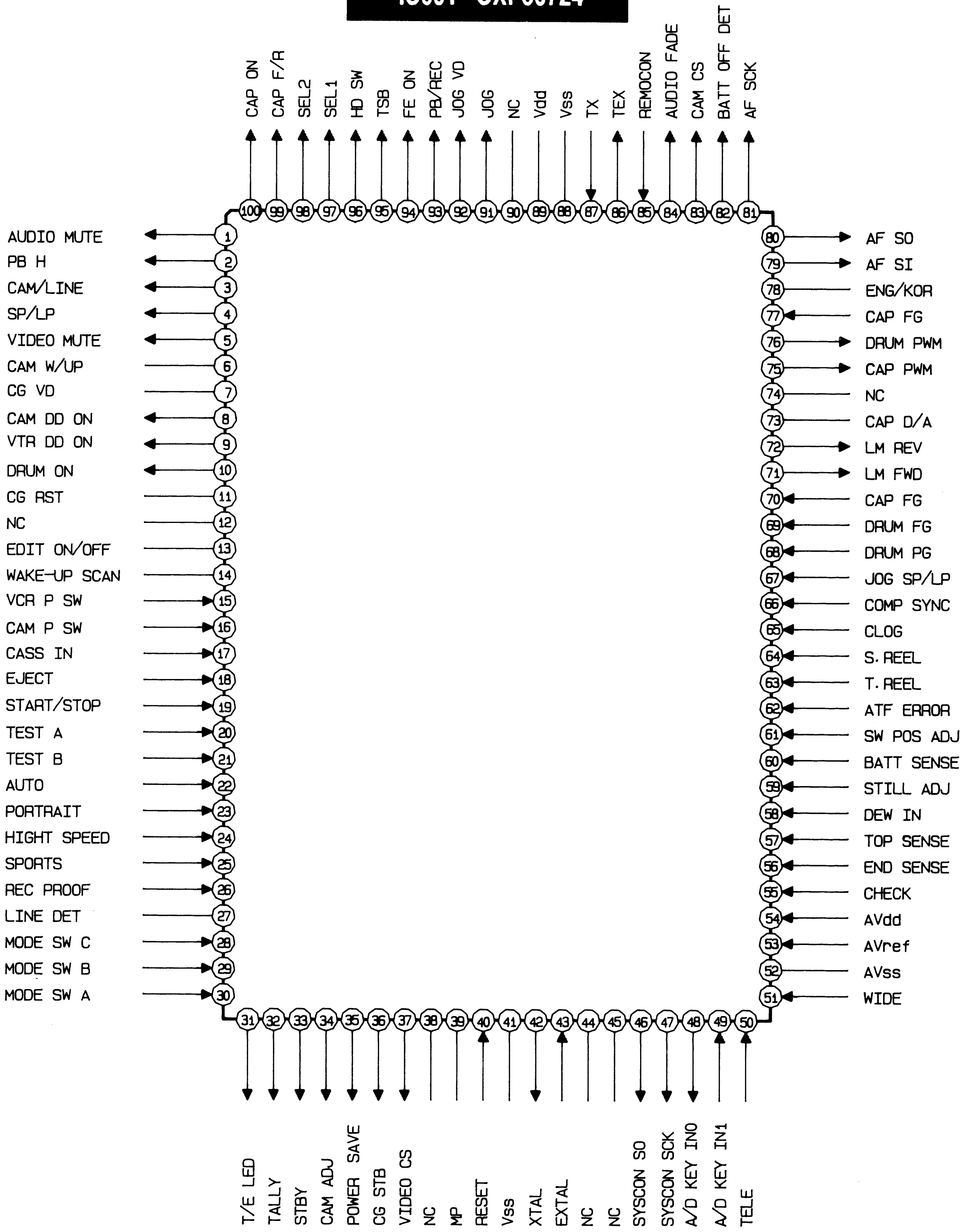
IC 606 (MSM5258MS)			
PIN NO	PLAY BACK	RECORD	STOP
1	0.0V	0.0V	4.7V
2	0.0V	0.0V	0.0V
3	0.0V	0.0V	0.0V
4	4.9V	4.9V	4.9V
5	0.0V	0.0V	0.0V
6	0.9V	1.9V	1.9V
7	2.3V	2.3V	2.3V
8	0.0V	0.0V	0.0V

LOCN	NO	PLAY BACK	RECORD	STOP
Q601	E	0.0V	0.0V	0.0V
	B	4.6V	4.6V	4.6V
	C	0.0V	0.0V	0.0V
Q602	E	0.0V	0.0V	0.0V
	B	0.0V	0.0V	0.0V
	C	5.0V	5.0V	5.0V
Q603	E	0.0V	0.0V	0.0V
	B	0.0V	0.0V	0.0V
	C	0.0V	0.0V	0.0V
Q604	E	0.0V	0.0V	0.0V
	B	0.0V	0.0V	0.0V
	C	5.0V	5.0V	5.0V
Q605	E	0.4V	0.4V	0.4V
	B	0.0V	0.0V	0.0V
	C	4.9V	4.9V	4.9V

IC501 KA8322


ATF ERR
DEW IN-
DEW IN+
DEW OUT
TOP IN
TOP DC
TOP OUT
END IN
END DC
END OUT
D VDD
SEL 1
SEL 2
CK OUT
CK IN
N.C
48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33
TOP DET
END DET
1/M
OSC
VREF
N.C
ERR IN
PD OUT
S/H OUT
SAMPLE
FILTER
FH IN
3FH IN
3FH OUT
FH OUT
AGC CON
V REF
A ACC
VR SCF
REC PILOT
AGC IN
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64
S/H
BUF
PDC
BPF1
BM1
BPF3
BM3
AGC
VAGC
ENV DET
REFERENCE
PRE
LPF
1/4
CK1
CK2
VREF
32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17
N.C
D GND
TAKE UP OUT
TAKE UP IN
SUPPLY IN
SUPPLY OUT
SP/LP OUT
SP/LP COM
SP/LP IN
SP/LP FIL
ENV IN
A GND
CLOG OUT
CLOG IN
CLOG FIL
CLOG LVL
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
LPF OUT
REC/PB
PB IN
DFG IN
DFG DC
DFG OUT
OP AMP IN+
OP AMP IN-
OP AMP OUT
DFG IN1
DFG OUT1
DFG IN2
DFG OUT2
V AGC CON
ENV OUT
N.C

IC601 CXP80724


1 AUDIO MUTE
2 PB H
3 CAM/LINE
4 SP/LP
5 VIDEO MUTE
6 CAM W/UP
7 CG VD
8 CAM DD ON
9 VTR DD ON
10 DRUM ON
11 CG RST
12 NC
13 EDIT ON/OFF
14 WAKE-UP SCAN
15 VCR P SW
16 CAM P SW
17 CASS IN
18 EJECT
19 START/STOP
20 TEST A
21 TEST B
22 AUTO
23 PORTRAIT
24 HIGHT SPEED
25 SPORTS
26 REC PROOF
27 LINE DET
28 MODE SW C
29 MODE SW B
30 MODE SW A
31 T/E LED
32 TALLY
33 STBY
34 CAM ADJ
35 POWER SAVE
36 CG STB
37 VIDEO CS
38 NC
39 MP
40 RESET
41 Vss
42 XTAL
43 EXTAL
44 NC
45 NC
46 SYSCON SO
47 SYSCON SCK
48 A/D KEY IN0
49 A/D KEY IN1
50 TELE
51 WIDE
52 AVss
53 AVref
54 AVdd
55 CHECK
56 END SENSE
57 TOP SENSE
58 DEW IN
59 STILL ADJ
60 BATT SENSE
61 SW POS ADJ
62 ATF ERROR
63 T. REEL
64 S. REEL
65 CLOG
66 COMP SYNC
67 JOG SP/LP
68 DRUM PG
69 DRUM FG
70 CAP FG
71 LM FWD
72 LM REV
73 CAP D/A
74 NC
75 CAP PWM
76 DRUM PWM
77 CAP FG
78 ENG/KOR
79 AF SI
80 AF SO
81 AF SCK
82 BATT OFF DET
83 CAM CS
84 AUDIO FADE
85 REMOCON
86 TEX
87 TX
88 Vss
89 Vdd
90 NC
91 JOG
92 JOG VD
93 PB/REC
94 FE ON
95 TSB
96 HD SW
97 SEL1
98 SEL2
99 CAP F/R
100 CAP ON

13-4. VIDEO/AUDIO

The schematic diagram of "VIDEO/AUDIO" is on page 13-20.

IC 101 (CXA1202A)			
PIN NO	PLAY BACK	RECORD	STOP
1	4.5V	4.5V	1.3V
2	0.0V	3.1V	1.0V
3	4.1V	4.1V	1.0V
4	0.0V	4.1V	1.0V
5	2.5V	2.5V	0.4V
6	0.0V	3.1V	1.0V
7	4.6V	4.6V	1.2V
8	1.7V	2.1V	0.8V
9	3.9V	4.5V	1.2V
10	2.4V	2.4V	0.6V
11	0.0V	0.0V	0.0V
12	2.4V	2.4V	0.4V
13	0.0V	0.0V	0.0V
14	2.4V	2.4V	0.4V
15	2.5V	1.3V	0.4V
16	2.4V	2.4V	0.4V
17	4.6V	4.6V	0.0V
18	2.4V	4.5V	0.7V
19	0.0V	0.0V	0.0V
20	1.7V	3.8V	1.0V
21	0.0V	0.0V	0.0V
22	0.0V	0.0V	0.0V
23	3.4V	3.4V	0.8V
24	2.5V	2.5V	0.7V
25	1.7V	1.7V	0.7V
26	2.4V	0.0V	0.0V
27	4.8V	4.8V	1.2V
28	4.8V	4.8V	1.2V
29	2.1V	2.1V	0.0V
30	2.1V	3.1V	0.7V
31	2.1V	2.1V	0.7V
32	2.1V	2.1V	0.0V
33	4.8V	4.8V	1.2V
34	4.8V	4.8V	1.2V
35	2.4V	0.0V	0.0V
36	1.7V	1.7V	0.7V
37	2.5V	2.5V	0.7V
38	3.4V	3.4V	0.7V
39	1.2V	1.2V	0.0V
40	0.0V	0.0V	0.0V
41	0.0V	0.0V	0.0V
42	1.1V	1.1V	0.8V
43	0.0V	0.0V	0.0V
44	0.0V	0.0V	0.0V
45	4.6V	0.0V	2.1V
46	2.5V	2.5V	0.4V
47	4.8V	4.8V	2.1V
48	0.5V	3.1V	1.0V

IC 201 (CXA1700)			
PIN NO	PLAY BACK	RECORD	STOP
1	3.1V	3.1V	3.1V
2	2.1V	2.1V	2.1V
3	2.1V	2.1V	2.1V
4	2.1V	2.1V	2.1V
5	2.4V	2.4V	2.4V
6	2.1V	2.1V	2.1V
7	1.9V	0.0V	0.0V
8	0.0V	1.9V	1.9V
9	2.1V	2.1V	2.1V
10	2.1V	2.1V	2.1V
11	2.1V	2.1V	2.1V
12	2.0V	2.0V	2.0V
13	2.4V	2.4V	2.4V
14	1.7V	1.4V	1.4V
15	3.0V	3.0V	3.0V
16	2.9V	2.9V	2.9V
17	0.0V	0.0V	0.0V
18	3.1V	3.3V	1.4V
19	2.1V	2.1V	2.1V
20	3.0V	3.2V	0.7V
21	2.1V	2.1V	2.6V
22	2.8V	2.8V	2.1V
23	2.6V	2.4V	2.4V
24	0.2V	0.2V	2.4V
25	4.5V	4.5V	4.5V
26	0.0V	0.0V	0.0V
27	2.5V	2.5V	2.5V
28	2.2V	2.2V	2.2V
29	4.1V	2.2V	1.5V
30	2.4V	2.4V	2.1V
31	1.9V	1.9V	2.6V
32	1.9V	1.9V	1.9V
33	2.4V	2.4V	2.4V
34	2.1V	2.1V	2.1V
35	0.0V	0.0V	0.0V
36	2.7V	2.4V	2.4V
37	2.0V	1.8V	1.8V
38	0.0V	4.8V	4.8V
39	0.1V	2.2V	2.2V
40	0.0V	0.0V	0.0V
41	0.0V	0.0V	0.0V
42	2.8V	0.0V	3.4V
43	2.8V	2.8V	2.8V
44	3.5V	3.5V	3.5V
45	3.0V	0.2V	0.2V
46	0.8V	0.8V	0.0V
47	4.7V	4.7V	4.7V
48	4.0V	1.7V	1.7V
49	4.5V	4.5V	4.5V
50	0.0V	0.0V	0.0V
51	2.3V	2.3V	2.3V
52	2.0V	2.3V	2.3V
53	2.6V	2.6V	2.6V
54	2.4V	2.4V	2.9V
55	1.8V	1.8V	1.8V
56	0.0V	0.0V	0.0V
57	2.0V	2.0V	3.0V
58	4.1V	4.1V	4.1V
59	2.8V	2.8V	4.0V
60	3.2V	3.2V	3.2V
61	2.2V	2.2V	2.2V
62	1.9V	1.9V	1.9V
63	0.0V	0.0V	1.9V
64	2.0V	2.0V	2.0V

IC 401 (KA8407)			
PIN NO	PLAY BACK	RECORD	STOP
1	0.0V	0.0V	0.0V
2	3.3V	0.0V	0.0V
3	3.3V	3.3V	3.3V
4	1.5V	2.4V	2.4V
5	4.3V	0.0V	0.0V
6	2.2V	0.0V	2.1V
7	4.9V	4.9V	4.9V
8	1.3V	1.9V	1.9V
9	0.0V	0.0V	0.0V
10	1.2V	1.2V	0.0V
11	3.4V	0.0V	0.0V
12	0.4V	0.4V	0.0V
13	4.6V	4.6V	4.6V
14	0.0V	2.1V	2.1V
15	0.0V	0.0V	2.1V
16	2.1V	2.1V	2.1V
17	4.9V	4.9V	4.9V
18	0.0V	0.0V	0.0V
19	2.4V	2.4V	2.4V
20	0.0V	0.0V	2.4V
21	0.0V	0.0V	0.0V
22	4.9V	4.9V	4.9V
23	2.1V	2.1V	2.1V
24	2.1V	2.1V	2.1V
25	2.1V	2.1V	2.1V
26	2.1V	2.1V	2.1V
27	2.7V	2.7V	2.7V
28	1.9V	1.9V	1.9V
29	2.8V	2.8V	2.8V
30	4.9V	4.9V	4.9V
31	2.1V	2.1V	2.1V
32	2.1V	2.1V	2.1V
33	2.1V	2.1V	2.1V
34	0.7V	0.7V	0.7V
35	0.0V	0.0V	0.0V
36	2.1V	2.1V	2.1V
37	0.0V	0.0V	0.0V
38	2.1V	2.1V	0.0V
39	2.1V	2.1V	2.1V
40	2.6V	1.7V	1.7V
41	4.2V	4.2V	4.2V
42	4.9V	4.9V	4.9V
43	3.7V	3.7V	3.7V
44	2.1V	2.1V	2.1V
45	3.5V	3.5V	4.3V
46	2.3V	2.3V	2.3V
47	0.0V	0.0V	0.0V
48	0.0V	0.0V	0.0V

IC 765 (CXL1506N)			
PIN NO	PLAY BACK	RECORD	STOP
1	0.0V	0.0V	0.0V
2	2.0V	0.0V	1.6V
3	2.4V	0.0V	2.4V
4	0.0V	0.0V	0.0V
5	2.0V	0.0V	2.0V
6	0.0V	0.0V	0.0V
7	2.0V	0.0V	2.0V
8	0.0V	0.0V	0.0V
9	0.0V	0.0V	0.0V
10	0.0V	0.0V	0.0V
11	5.0V	0.0V	5.0V
12	2.4V	0.0V	2.0V
13	0.0V	0.0V	0.0V
14	0.0V	0.0V	0.0V
15	2.0V	0.0V	2.0V
16	2.0V	0.0V	2.0V
17	4.7V	0.0V	4.7V
18	1.8V	0.0V	0.6V
19	0.0V	0.0V	0.0V
20	0.0V	0.0V	0.0V

IC 741 (M52358)			
PIN NO	PLAY BACK	RECORD	STOP
1	5.0V	1.0V	0.8V
2	2.2V	1.5V	1.5V
3	0.0V	0.0V	0.0V
4	3.5V	0.0V	0.0V
5	0.0V	0.0V	0.0V
6	0.0V	0.0V	0.0V
7	2.2V	0.0V	0.0V
8	0.0V	0.0V	0.0V
9	2.0V	0.0V	0.0V
10	1.0V	0.0V	0.0V
11	0.0V	1.5V	1.5V
12	0.0V	0.0V	0.0V
13	4.2V	0.0V	0.0V
14	2.4V	0.0V	0.0V
15	2.4V	0.0V	0.0V
16	1.8V	0.0V	0.0V
17	4.6V	0.0V	0.0V
18	0.0V	0.0V	0.0V
19	5.0V	0.0V	0.6V
20	0.0V	0.0V	0.0V
21	1.6V	0.0V	0.0V
22	2.5V	0.0V	0.6V
23	5.0V	0.0V	0.6V
24	0.0V	0.0V	0.0V

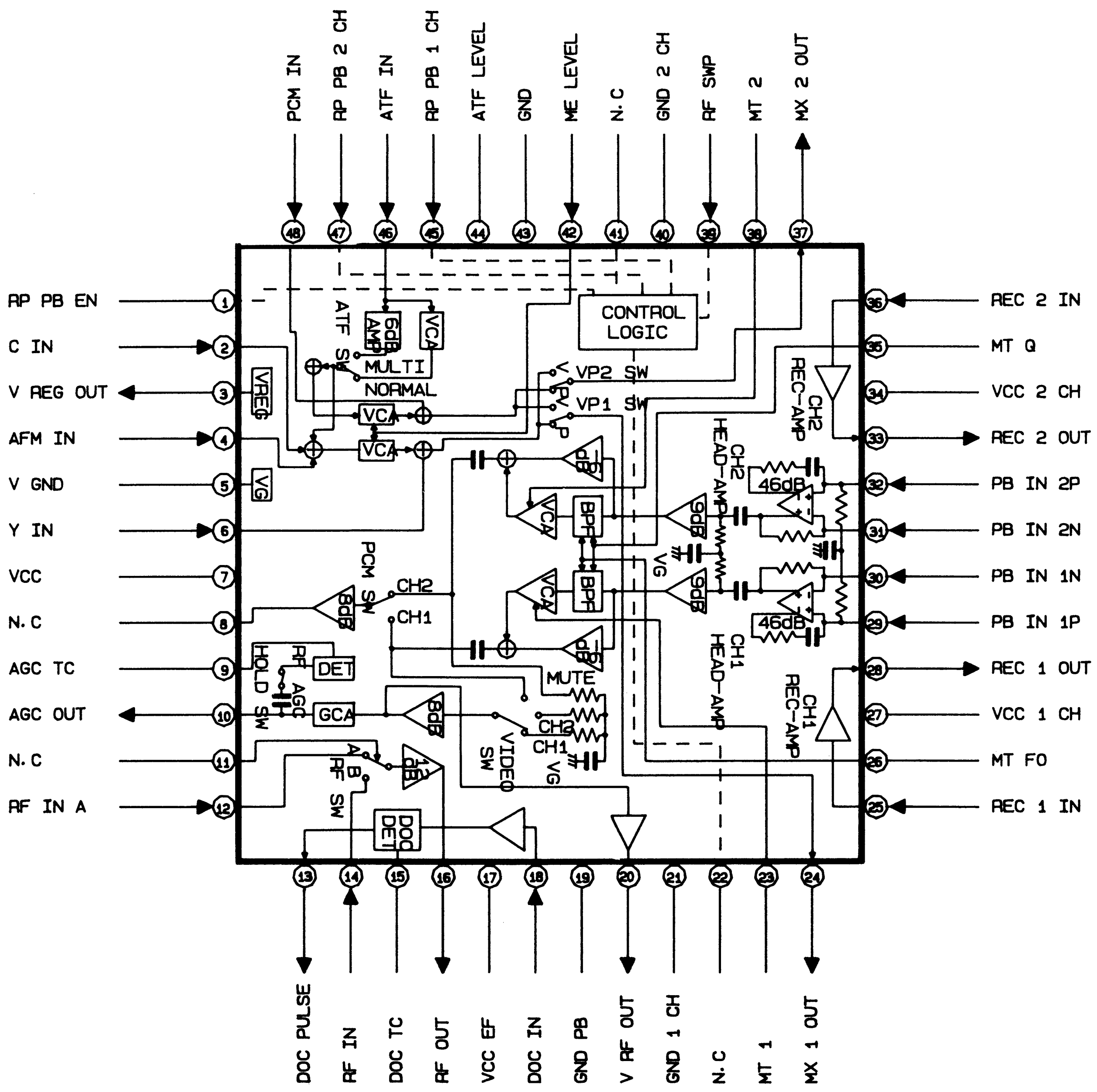
LOCN	NO	PLAY BACK	RECORD	STOP
Q110	E	0.0V	0.0V	0.0V
	B	0.0V	0.0V	0.0V
	C	2.5V	1.3V	0.4V
Q120	E	3.5V	3.5V	0.7V
	B	4.1V	4.1V	1.3V
	C	4.7V	4.7V	1.3V
Q121	E	2.4V	4.5V	1.3V
	B	4.8V	0.5V	0.5V
	C	0.0V	4.5V	0.7V
Q171	E	2.0V	0.0V	0.0V
	B	2.6V	0.5V	0.3V
	C	4.8V	0.3V	0.5V
Q175	E	1.2V	0.0V	0.0V
	B	1.9V	0.0V	0.0V
	C	4.8V	0.5V	0.5V
Q176	E	0.0V	0.0V	0.5V
	B	4.8V	0.5V	0.5V
	C	4.8V	0.5V	0.0V
Q190	E	1.9V	0.9V	0.0V
	B	2.3V	0.2V	0.2V
	C	0.0V	0.5V	0.5V
QM125	1	4.7V	4.7V	1.3V
	2	2.4V	3.5V	0.5V
	3	4.1V	4.1V	1.3V
	4	1.3V	1.3V	0.5V
	5	0.8V	0.8V	0.0V
	6	1.8V	3.0V	0.0V
QM141	1	0.0V	4.6V	1.4V
	2	1.7V	4.1V	1.1V
	3	1.3V	4.6V	1.4V
	4	0.0V	0.0V	0.0V
	5	2.4V	2.4V	0.4V
	6	1.8V	1.8V	0.0V
QM151	1	3.2V	2.5V	0.8V
	2	0.0V	3.5V	0.0V
	3	1.1V	2.1V	0.5V
	4	0.7V	0.0V	0.0V
	5	0.0V	0.0V	0.0V
	6	0.0V	0.0V	0.0V
QM161	1	0.0V	0.0V	0.0V
	2	4.7V	3.5V	1.3V
	3	0.0V	0.0V	0.0V
	4	4.7V	3.0V	2.7V
	5	4.7V	2.2V	1.3V
	6	4.7V	4.0V	1.3V
QM198	1	4.8V	4.8V	0.0V
	2	0.0V	0.0V	0.0V
	3	0.0V	0.5V	0.5V
	4	0.0V	0.0V	0.0V
	5	0.0V	0.0V	0.0V
	6	0.0V	0.0V	0.0V

LOCN	NO	PLAY BACK	RECORD	STOP
Q201	E	1.2V	1.2V	0.0V
	B	1.8V	0.0V	0.0V
	C	4.1V	0.5V	0.5V
Q228	E	0.0V	0.0V	0.6V
	B	0.0V	0.0V	0.0V
	C	0.6V	0.6V	0.0V
Q264	E	0.7V	2.5V	2.5V
	B	0.0V	0.9V	1.9V
	C	0.0V	0.0V	0.0V
Q270	E	0.0V	0.0V	0.0V
	B	0.0V	0.0V	0.0V
	C	0.0V	0.0V	0.0V
Q274	E	1.6V	1.6V	3.1V
	B	2.2V	2.2V	4.9V
	C	4.9V	4.9V	0.0V
QM201	1	1.2V	0.4V	0.4V
	2	1.2V	0.4V	0.4V
	3	1.2V	0.0V	0.0V
	4	1.2V	0.0V	0.4V
	5	0.6V	0.0V	0.0V
	6	0.6V	0.0V	0.0V
QM202	1	4.8V	0.5V	0.5V
	2	1.9V	0.0V	0.0V
	3	3.2V	0.5V	0.5V
	4	1.9V	0.0V	0.0V
	5	1.2V	0.0V	0.0V
	6	1.8V	0.0V	0.0V
QM203	1	4.8V	0.5V	0.5V
	2	1.5V	0.0V	0.0V
	3	2.2V	0.5V	0.5V
	4	0.0V	0.0V	0.0V
	5	3.2V	0.5V	0.5V
	6	2.6V	0.5V	0.0V
QM224	1	0.0V	1.5V	1.6V
	2	0.0V	0.0V	0.9V
	3	0.0V	1.5V	0.4V
	4	4.8V	4.8V	1.3V
	5	0.0V	1.5V	0.9V
	6	4.8V	3.1V	0.9V

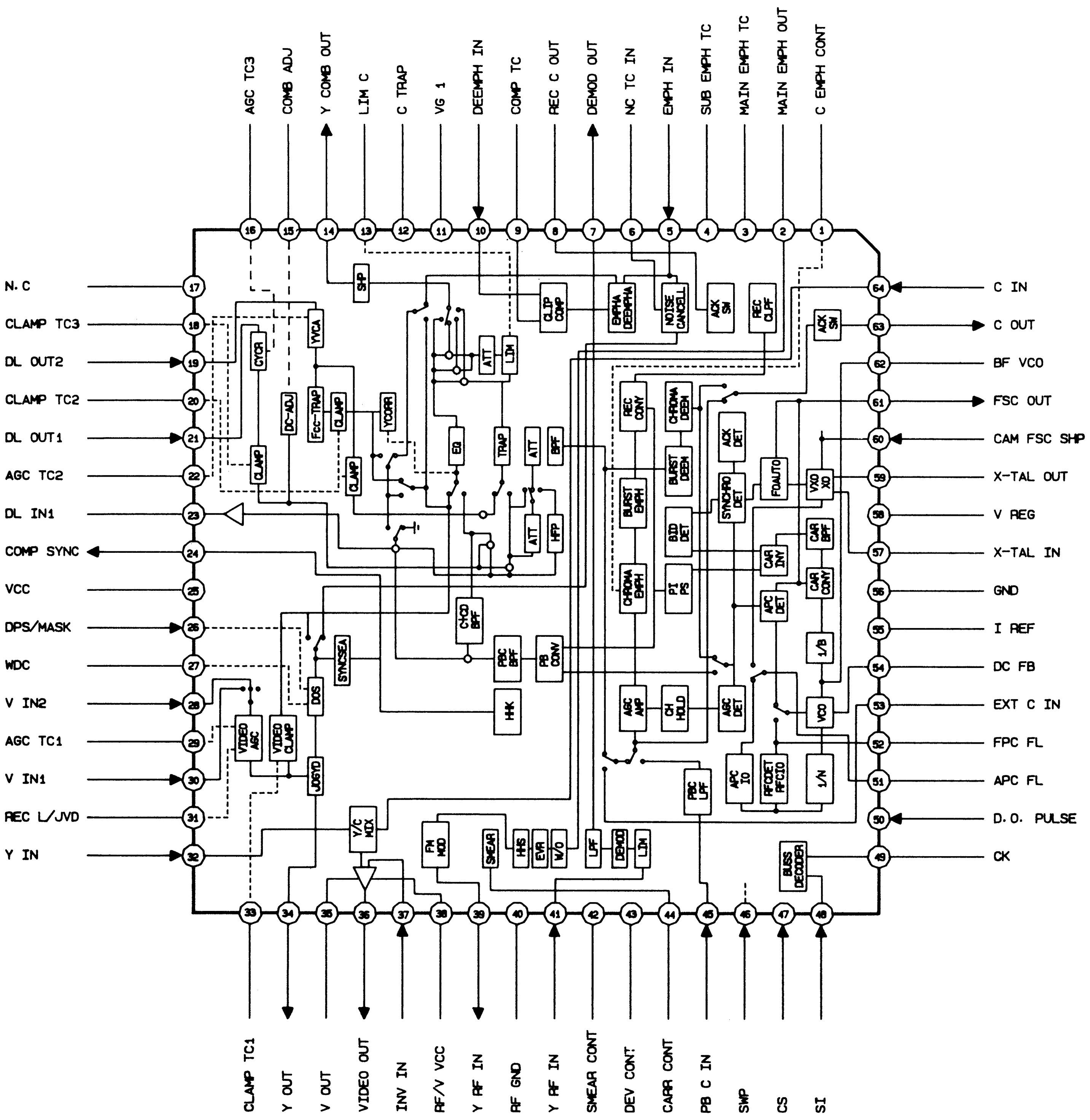
LOCN	NO	PLAY BACK	RECORD	STOP
Q300	E	1.3V	1.5V	2.5V
	B	2.0V	2.7V	2.0V
	C	4.5V	4.5V	4.8V
Q301	E	4.8V	4.8V	4.8V
	B	4.3V	0.0V	0.0V
	C	4.8V	4.8V	4.8V
Q331	E	4.1V	4.1V	4.1V
	B	3.5V	3.5V	3.5V
	C	1.8V	1.8V	1.8V
Q351	E	0.0V	0.0V	0.0V
	B	4.0V	4.0V	4.0V
	C	0.0V	0.0V	0.0V
Q352	E	5.0V	5.0V	5.0V
	B	4.2V	4.2V	4.2V
	C	4.8V	4.8V	4.8V
Q359	E	2.0V	2.0V	1.7V
	B	1.5V	1.5V	1.1V
	C	0.0V	0.0V	0.0V
Q360	E	2.7V	2.7V	2.4V
	B	2.0V	2.0V	2.7V
	C	0.0V	0.0V	0.0V
Q368	E	0.0V	0.0V	0.0V
	B	4.8V	4.8V	0.0V
	C	0.0V	0.0V	0.0V
Q369	E	5.0V	5.0V	5.0V
	B	0.0V	0.0V	0.0V
	C	5.0V	5.0V	5.0V
Q374	E	3.0V	3.0V	1.4V
	B	5.0V	5.0V	1.2V
	C	0.0V	0.0V	4.7V
Q380	E	4.8V	0.5V	0.5V
	B	4.6V	4.6V	4.6V
	C	4.8V	0.5V	0.5V
Q386	E	5.0V	5.0V	5.0V
	B	4.2V	5.0V	5.0V
	C	5.0V	0.5V	0.5V
Q387	E	4.0V	4.0V	5.0V
	B	4.2V	4.2V	5.0V
	C	5.0V	5.0V	1.2V
Q741	E	4.8V	0.8V	0.6V
	B	4.8V	0.8V	0.0V
	C	0.0V	0.0V	0.0V
Q742	E	4.8V	0.8V	0.6V
	B	4.8V	0.8V	0.6V
	C	0.0V	0.0V	0.0V

LOCN	NO	PLAY BACK	RECORD	STOP
QM301	1	0.5V	0.3V	0.0V
	2	0.0V	0.0V	0.0V
	3	4.0V	4.0V	4.0V
	4	1.0V	2.0V	2.0V
	5	1.5V	1.5V	1.5V
	6	1.5V	1.5V	1.5V
QM302	1	4.8V	4.8V	4.8V
	2	3.6V	3.6V	3.6V
	3	3.5V	3.9V	3.6V
	4	2.0V	1.0V	2.0V
	5	1.5V	1.5V	1.5V
	6	2.8V	2.8V	2.8V
QM385	1	0.0V	4.9V	4.9V
	2	0.0V	0.0V	4.9V
	3	1.9V	1.9V	0.0V
	4	0.0V	0.0V	0.0V
	5	4.3V	0.0V	0.0V
	1	5.0V	1.0V	0.6V
QM741	2	3.6V	1.0V	0.6V
	3	3.6V	1.0V	0.6V
	4	2.0V	0.0V	0.2V
	5	1.4V	0.0V	0.0V
	6	3.0V	1.5V	1.4V
QM742	1	4.4V	0.8V	0.6V
	2	0.4V	0.0V	0.0V
	3	4.4V	0.8V	0.6V
	4	0.0V	0.0V	0.0V
	5	0.0V	0.0V	0.0V
	6	4.4V	0.8V	0.6V
QM743	1	0.0V	0.0V	0.0V
	2	0.0V	0.0V	0.0V
	3	0.0V	0.0V	0.0V
	4	0.0V	0.0V	0.0V
	5	0.0V	0.0V	0.0V
	6	0.0V	0.0V	0.0V
QM765	1	3.0V	0.0V	2.5V
	2	2.0V	0.0V	2.0V
	3	5.0V	0.0V	5.0V
	4	3.0V	0.0V	2.5V
	5	2.4V	0.0V	2.0V
	6	1.2V	0.0V	1.4V
QM766	1	3.5V	0.0V	3.5V
	2	1.3V	1.3V	1.3V
	3	1.9V	1.9V	1.9V
	4	0.0V	0.0V	0.0V
	5	1.9V	1.9V	1.9V
	6	1.3V	1.3V	1.3V
QM767	1	5.0V	0.0V	5.0V
	2	3.0V	0.0V	3.0V
	3	3.4V	0.0V	0.0V
	4	2.4V	0.0V	2.0V
	5	1.8V	0.0V	1.2V
	6	2.8V	0.0V	2.2V

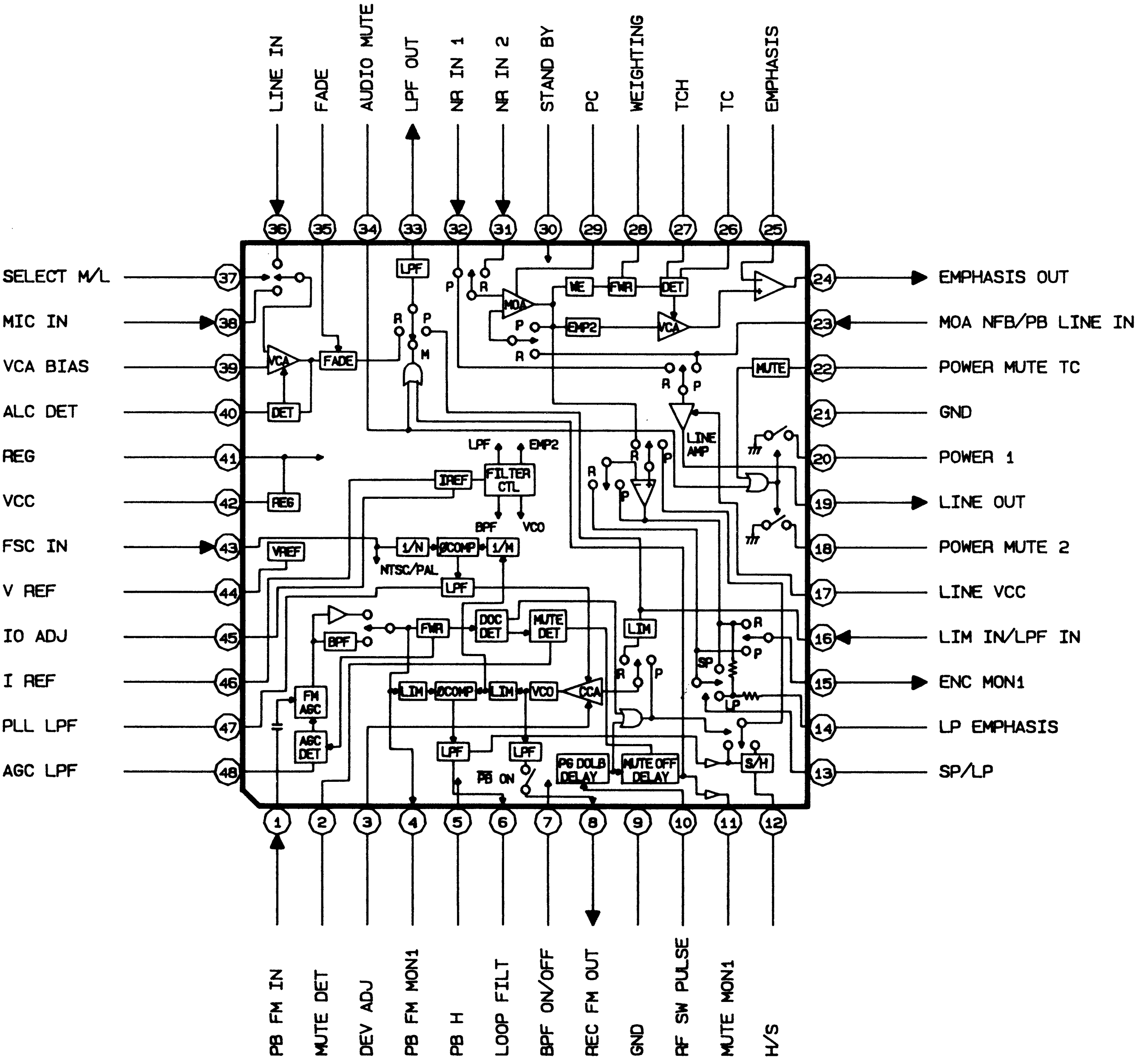
IC101 CXA1202R


PCM IN
RP PB 2 CH
ATF IN
RP PB 1 CH
ATF LEVEL
GND
ME LEVEL
N.C
GND 2 CH
RF SWP
MT 2
MX 2 OUT
RP PB EN
C IN
V REG OUT
AFM IN
V GND
Y IN
VCC
N.C
AGC TC
AGC OUT
N.C
RF IN A
REC 2 IN
MT Q
VCC 2 CH
REC 2 OUT
PB IN 2P
PB IN 2N
PB IN 1N
PB IN 1P
REC 1 OUT
VCC 1 CH
MT FO
REC 1 IN
DOC PULSE
RF IN
DOC TC
RF OUT
VCC EF
DOC IN
GND PB
V RF OUT
GND 1 CH
N.C
MT 1
MX 1 OUT
CONTROL LOGIC
VREG
VG
ATF SW
6dB AMP
VCA
MULTI
NORMAL
VP2 SW
VP1 SW
CH2 REC-AMP
CH2 HEAD-AMP
46dB
9dB
BPF
PCM SW
CH2
CH1
HOLD SW
RF AGC
DET
GCA
8dB
MUTE
VIDEO SW
VG
A B
RF SW
DOC DET
CH1 HEAD-AMP
CH1 REC-AMP

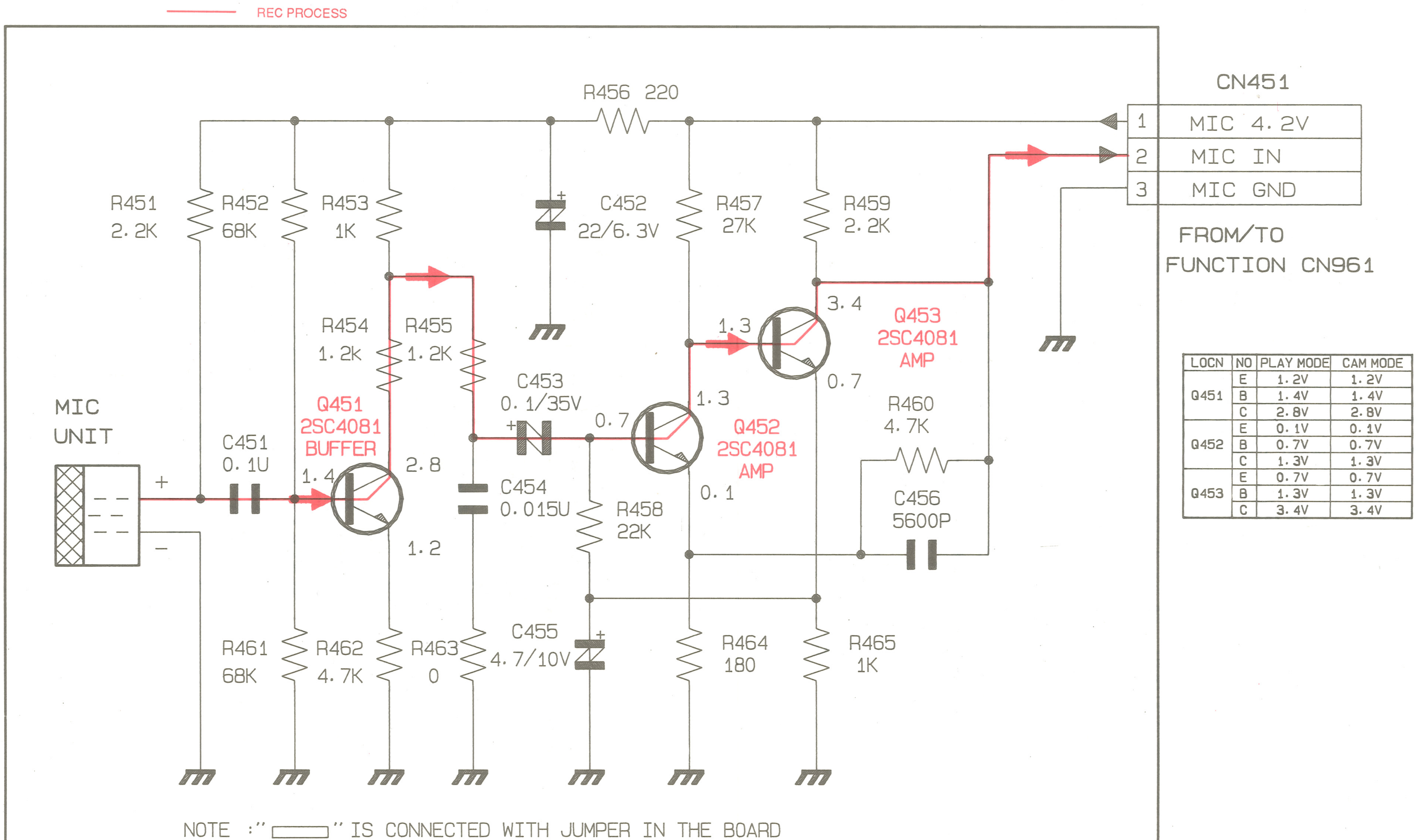
IC201 CXA1700R


AGC TC3
COMB ADJ
Y COMB OUT
LIM C
C TRAP
VG 1
DEEMPH IN
COMP TC
REC C OUT
DEMOD OUT
NC TC IN
EMPH IN
SUB EMPH TC
MAIN EMPH TC
MAIN EMPH OUT
C EMPH CONT
N.C
CLAMP TC3
DL OUT2
CLAMP TC2
DL OUT1
AGC TC2
DL IN1
COMP SYNC
VCC
DPS/MASK
WDC
V IN2
AGC TC1
V IN1
REC L/JVD
Y IN
C IN
C OUT
BF VCO
FSC OUT
CAM FSC SHP
X-TAL OUT
V REG
X-TAL IN
GND
I REF
DC FB
EXT C IN
FPC FL
APC FL
D.O. PULSE
CK
CLAMP TC1
Y OUT
V OUT
VIDEO OUT
INV IN
RF/V VCC
Y RF IN
RF GND
Y RF IN
SHEAR CONT
DEV CONT
CARR CONT
PB C IN
SWP
CS
SI
CLIP COMP
EMPHA DEEMPHA
NOISE CANCELL
ACK SW
REC CLIP
ATT
LIM
TRAP
EQ
BPF
HPF
CLAMP
REC CONV
CHROMA DEEM
BURST DEEM
BURST EMPH
CHROMA EMPH
ACK DET
SYNCHRO DET
FDAUTO
VXO XO
PI PS
BID DET
CAR INV
CAR BPF
CAR CONV
APC DET
1/8
AGC AMP
CH HOLD
AGC DET
VCO
APC IO
1/N
PBC LPF
PB CONV
PBC BPF
CHCD BPF
HHK
DOS
SYNCSEA
VIDEO AGC
VIDEO CLAMP
V/C MIX
FM MOD
SHEAR
HHS
EVR
W/D
LPF
DEMOD
LIM
BUSS DECODER

IC401 KA8407


LINE IN
FADE
AUDIO MUTE
LPF OUT
NR IN 1
NR IN 2
STAND BY
PC
WEIGHTING
TCH
TC
EMPHASIS
36
35
34
33
32
31
30
29
28
27
26
25
SELECT M/L
MIC IN
VCA BIAS
ALC DET
REG
VCC
FSC IN
V REF
IO ADJ
I REF
PLL LPF
AGC LPF
37
38
39
40
41
42
43
44
45
46
47
48
EMPHASIS OUT
MOA NFB/PB LINE IN
POWER MUTE TC
GND
POWER 1
LINE OUT
POWER MUTE 2
LINE VCC
LIM IN/LPF IN
ENC MON1
LP EMPHASIS
SP/LP
24
23
22
21
20
19
18
17
16
15
14
13
1
2
3
4
5
6
7
8
9
10
11
12
PB FM IN
MUTE DET
DEV ADJ
PB FM MON1
PB H
LOOP FILT
BPF ON/OFF
REC FM OUT
GND
RF SW PULSE
MUTE MON1
H/S
LPF
R
P
M
VCA
FADE
DET
MOA
WE
FWR
DET
EMP2
VCA
MUTE
LINE AMP
IREF
FILTER CTL
LPF
EMP2
BPF
VCO
REG
VREF
1/N
ØCOMP
1/M
NTSC/PAL
LPF
DOC DET
MUTE DET
FWR
BPF
FM AGC
AGC DET
LIM
ØCOMP
LIM
VCO
CCA
LIM
SP
LP
S/H
LPF
LPF
PB ON
PG DOLB DELAY
MUTE OFF DELAY

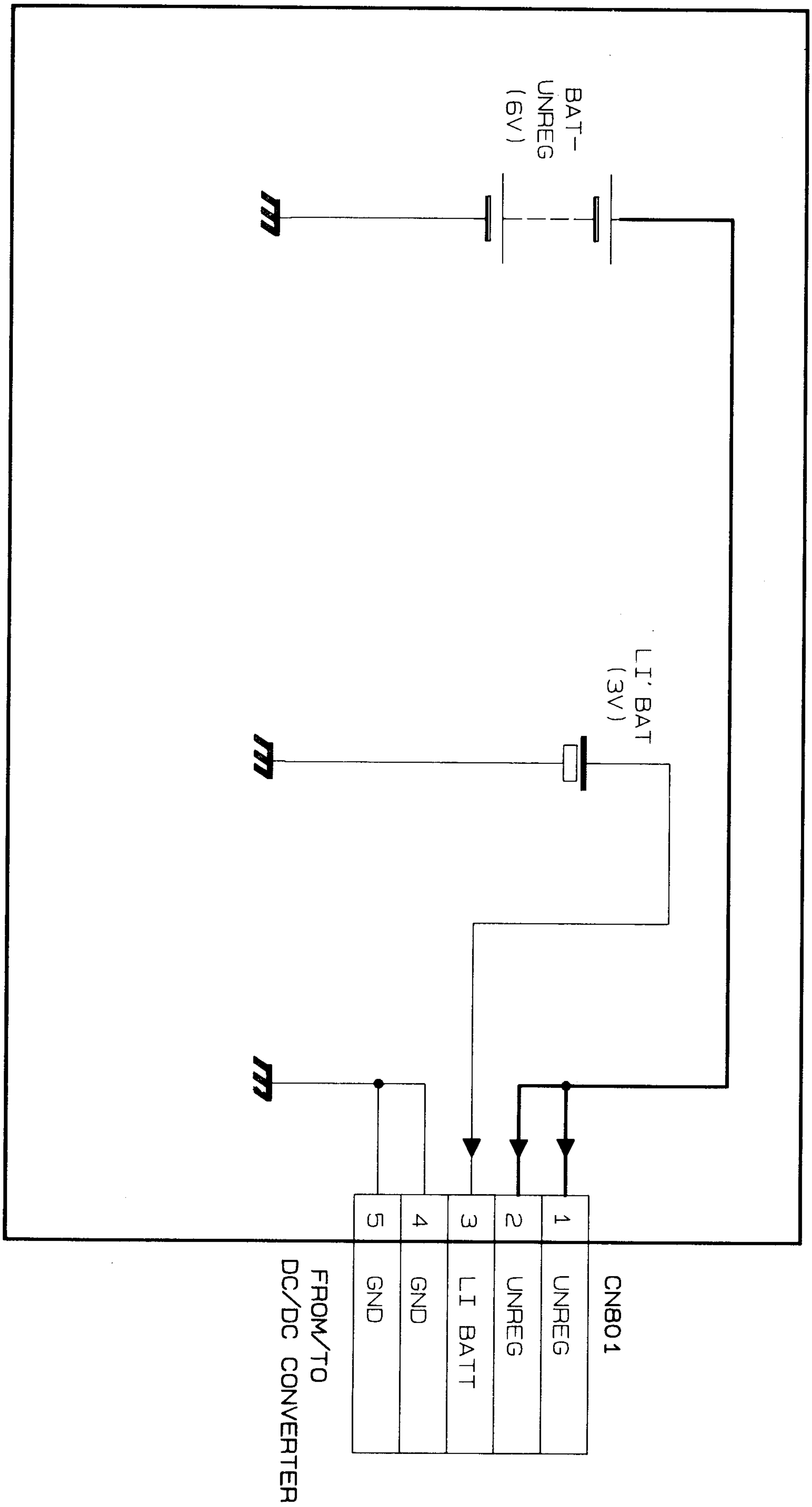
13-5. MIC


REC PROCESS
R456 220
CN451
1 MIC 4.2V
2 MIC IN
3 MIC GND
FROM/TO FUNCTION CN961
R451 2.2K
R452 68K
R453 1K
C452 22/6.3V
R457 27K
R459 2.2K
R454 1.2K
R455 1.2K
3.4
Q453 2SC4081 AMP
1.3
0.7
C453 0.1/35V
1.3
R460 4.7K
MIC UNIT
Q451 2SC4081 BUFFER
0.7
Q452 2SC4081 AMP
C451 0.1U
2.8
1.4
C454 0.015U
R458 22K
0.1
C456 5600P
1.2
+
−
R461 68K
R462 4.7K
R463 0
C455 4.7/10V
R464 180
R465 1K

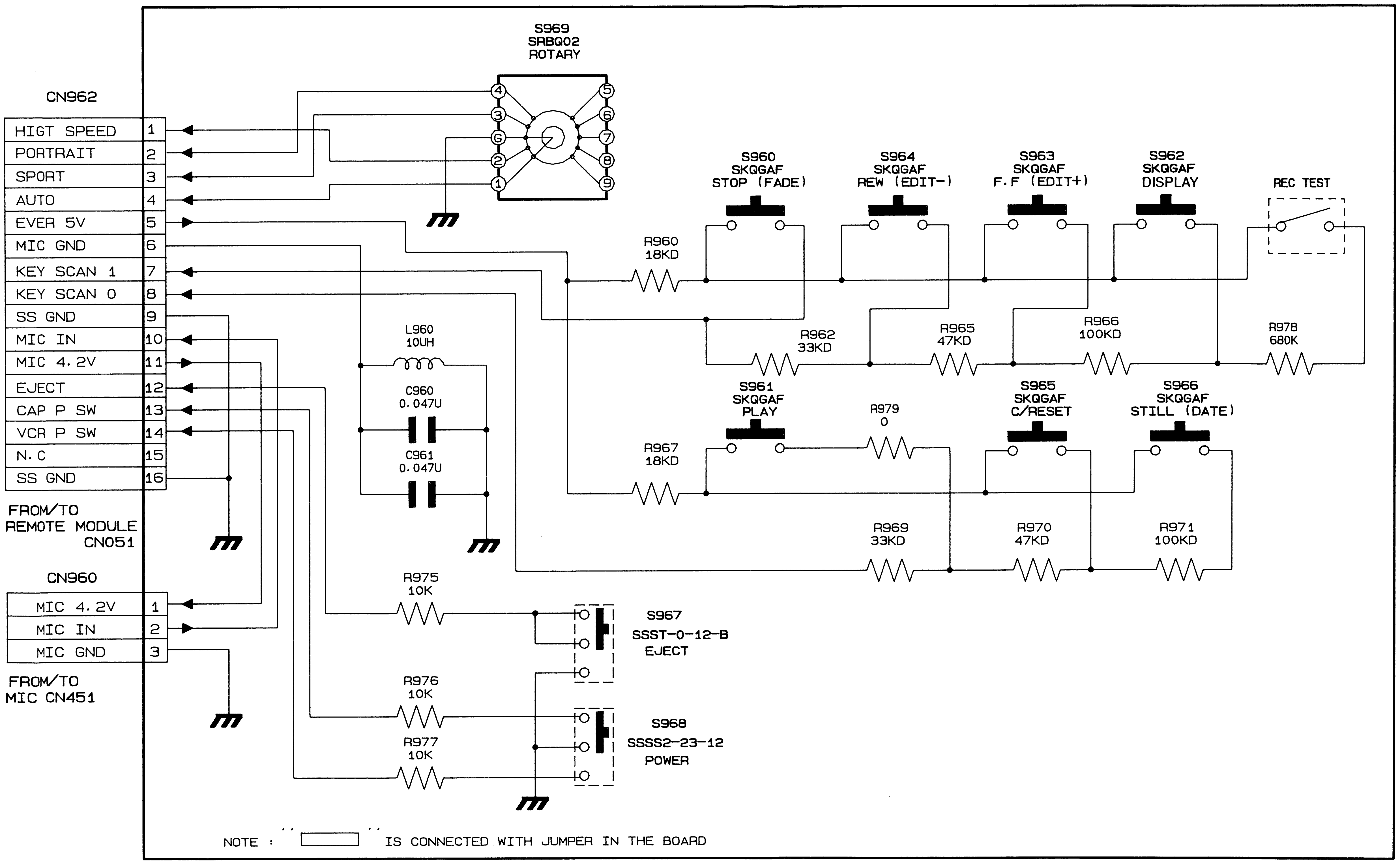
NOTE :" ▭ " IS CONNECTED WITH JUMPER IN THE BOARD
: VOLTAGE TAKEN IN THE PLAY AND REC MODE

LOCN	NO	PLAY MODE	CAM MODE
Q451	E	1.2V	1.2V
	B	1.4V	1.4V
	C	2.8V	2.8V
Q452	E	0.1V	0.1V
	B	0.7V	0.7V
	C	1.3V	1.3V
Q453	E	0.7V	0.7V
	B	1.3V	1.3V
	C	3.4V	3.4V

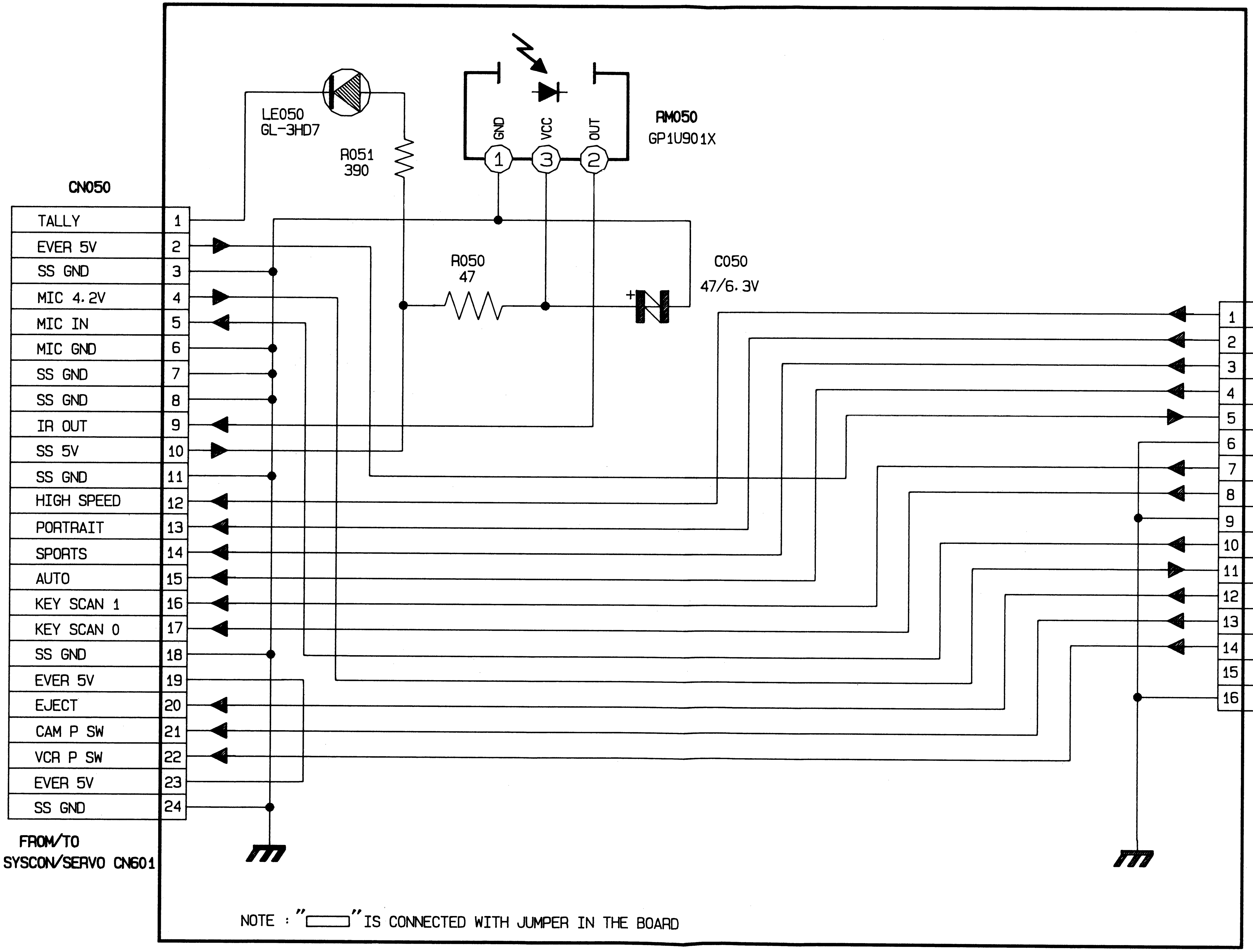
13-6. BATTERY TERMINAL


BAT-UNREG
(6V)
LI' BAT
(3V)
CN801
1
2
3
4
5
UNREG
UNREG
LI BATT
GND
GND
FROM/TO
DC/DC CONVERTER

13-7. FUNCTION


S969
SRBQ02
ROTARY
4
3
G
2
1
5
6
7
8
9
CN962
HIGT SPEED 1
PORTRAIT 2
SPORT 3
AUTO 4
EVER 5V 5
MIC GND 6
KEY SCAN 1 7
KEY SCAN 0 8
SS GND 9
MIC IN 10
MIC 4.2V 11
EJECT 12
CAP P SW 13
VCR P SW 14
N.C 15
SS GND 16
FROM/TO
REMOTE MODULE
CN051
CN960
MIC 4.2V 1
MIC IN 2
MIC GND 3
FROM/TO
MIC CN451
S960
SKQGAF
STOP (FADE)
S964
SKQGAF
REW (EDIT-)
S963
SKQGAF
F.F (EDIT+)
S962
SKQGAF
DISPLAY
REC TEST
R960
18KD
L960
10UH
R962
33KD
R965
47KD
R966
100KD
R978
680K
C960
0.047U
C961
0.047U
S961
SKQGAF
PLAY
R979
0
S965
SKQGAF
C/RESET
S966
SKQGAF
STILL (DATE)
R967
18KD
R969
33KD
R970
47KD
R971
100KD
R975
10K
S967
SSST-0-12-B
EJECT
R976
10K
R977
10K
S968
SSSS2-23-12
POWER
NOTE : " " IS CONNECTED WITH JUMPER IN THE BOARD

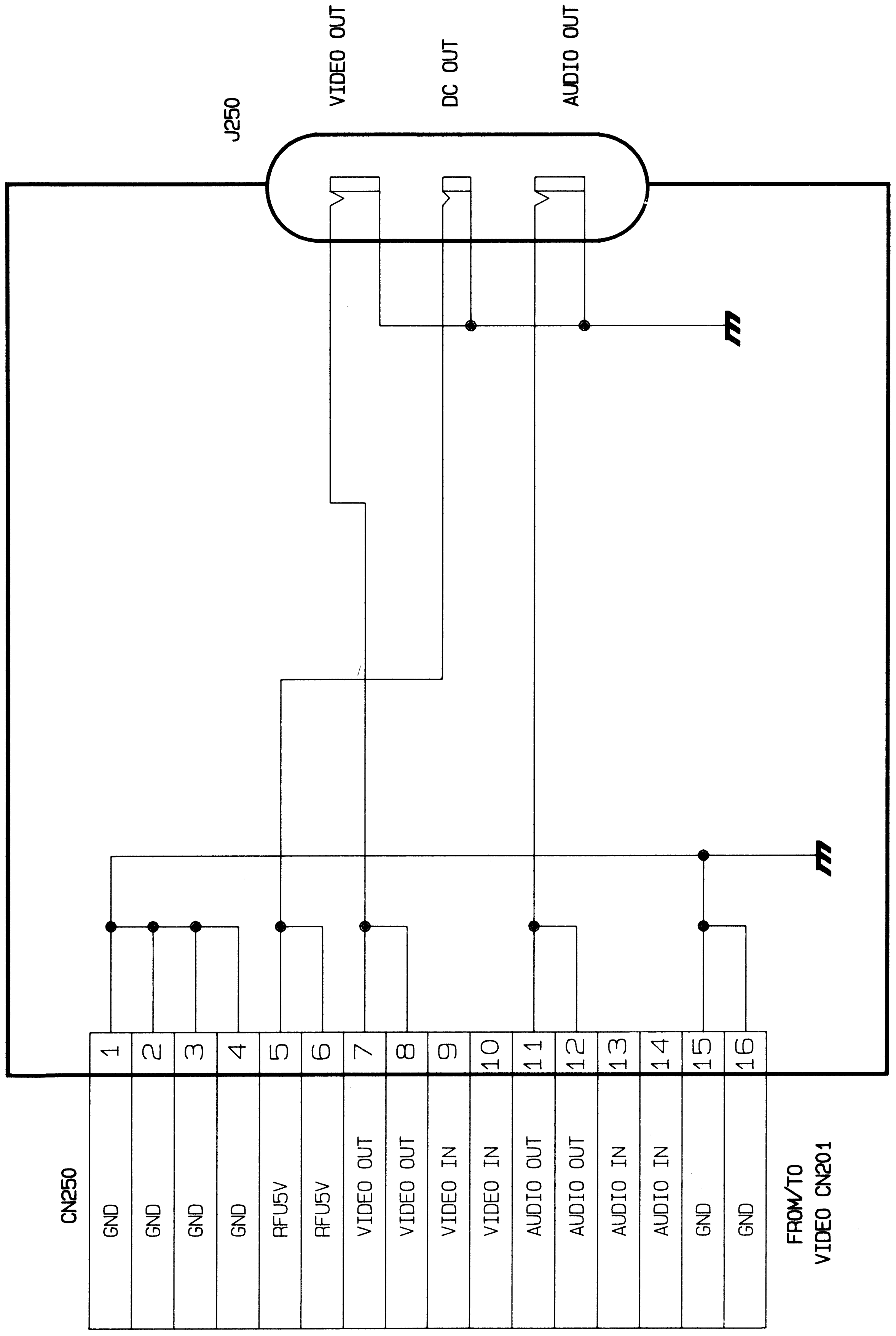
13-8. REMOTE MODULE


LE050
GL-3HD7
R051
390
GND
VCC
OUT
1
3
2
RM050
GP1U901X
R050
47
C050
47/6.3V
+
CN050
1 TALLY
2 EVER 5V
3 SS GND
4 MIC 4.2V
5 MIC IN
6 MIC GND
7 SS GND
8 SS GND
9 IR OUT
10 SS 5V
11 SS GND
12 HIGH SPEED
13 PORTRAIT
14 SPORTS
15 AUTO
16 KEY SCAN 1
17 KEY SCAN 0
18 SS GND
19 EVER 5V
20 EJECT
21 CAM P SW
22 VCR P SW
23 EVER 5V
24 SS GND
FROM/TO
SYSCON/SERVO CN601
CN051
1 HIGH SPEED
2 PORTRAIT
3 SPORT
4 AUTO
5 EVER 5V
6 MIC GND
7 KEY SCAN 1
8 KEY SCAN 0
9 SS GND
10 MIC IN
11 MIC 4.2V
12 EJECT
13 CAM P SW
14 VCR P SW
15 N.C
16 SS GND
FROM/TO
FUNCTION W960

NOTE : "▭" IS CONNECTED WITH JUMPER IN THE BOARD

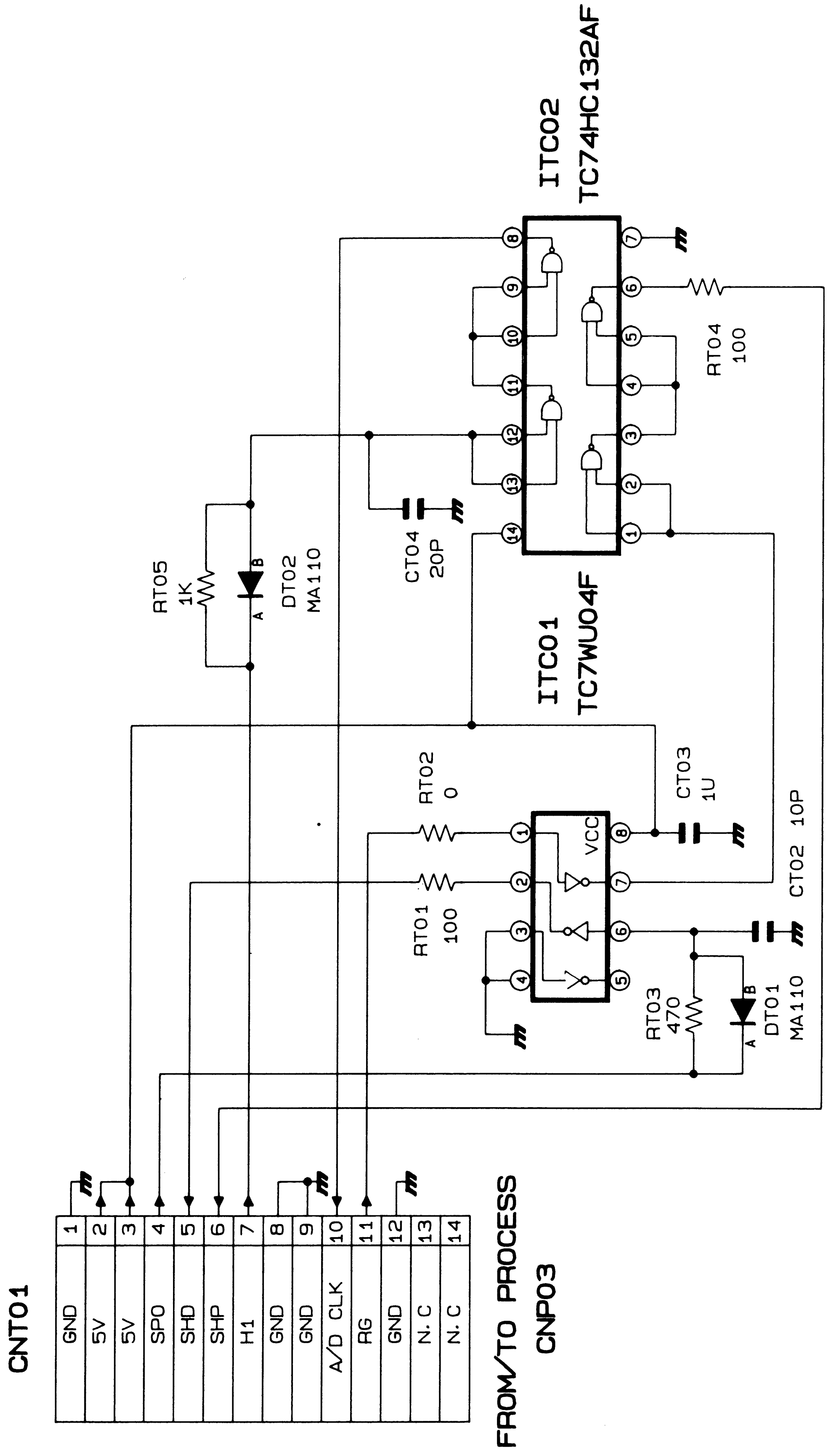
A/V JACK

13-9. A/V JACK

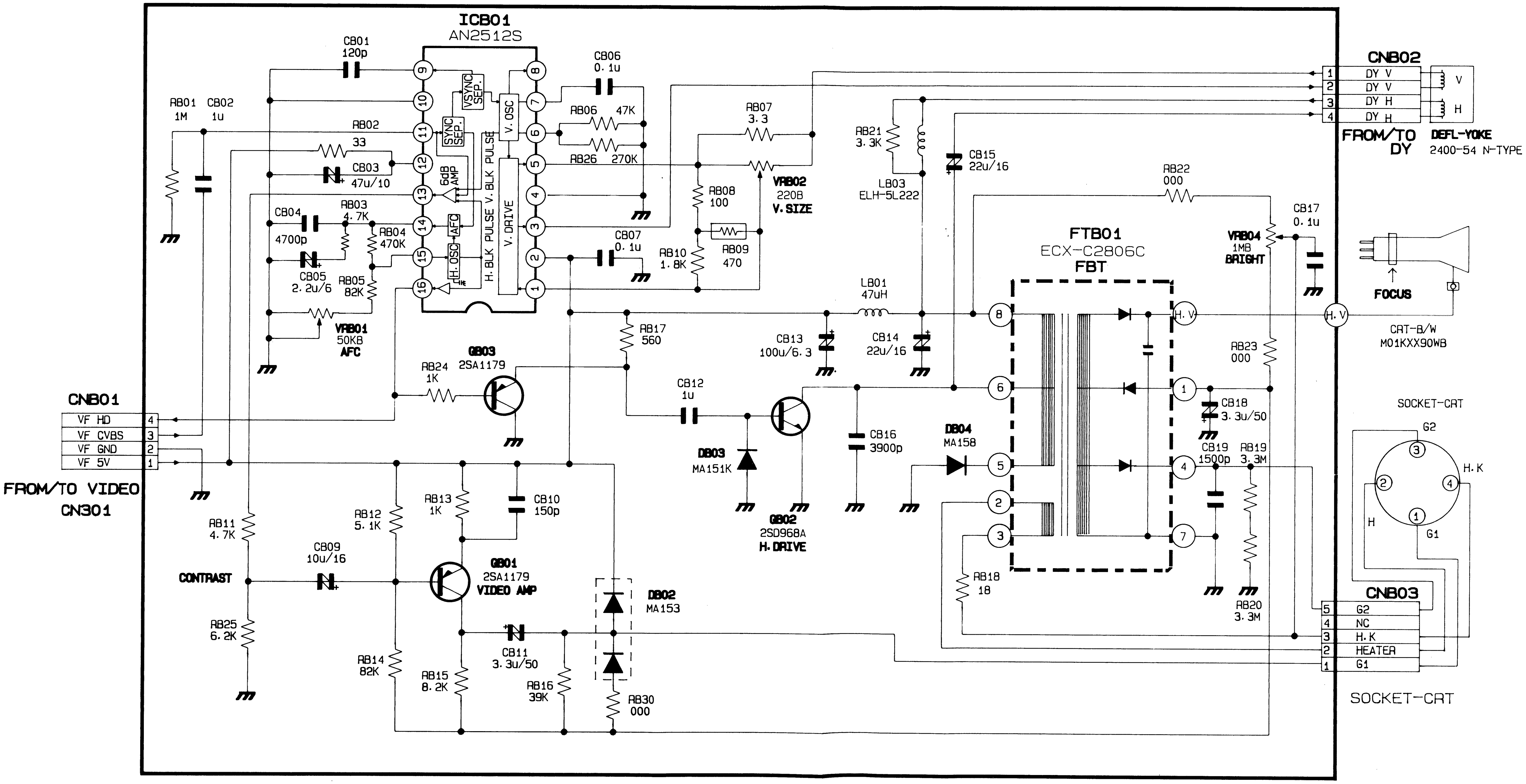

J250
VIDEO OUT
DC OUT
AUDIO OUT
CN250
1 GND
2 GND
3 GND
4 GND
5 RFU5V
6 RFU5V
7 VIDEO OUT
8 VIDEO OUT
9 VIDEO IN
10 VIDEO IN
11 AUDIO OUT
12 AUDIO OUT
13 AUDIO IN
14 AUDIO IN
15 GND
16 GND
FROM/TO
VIDEO CN201

DELAY

13-10. DELAY


ITC02
TC74HC132AF
ITC01
TC7WU04F
VCC
RT01
100
RT02
0
RT03
470
RT04
100
RT05
1K
CT02 10P
CT03
1U
CT04
20P
DT01
MA110
DT02
MA110
A
B
CNT01
1 GND
2 5V
3 5V
4 SPO
5 SHD
6 SHP
7 H1
8 GND
9 GND
10 A/D CLK
11 RG
12 GND
13 N.C
14 N.C
FROM/TO PROCESS
CNP03

13-11. EVF


ICB01
AN2512S
CB01
120p
CB06
0.1u
VSYNC SEP.
SYNC SEP.
6dB AMP
AFC
H.OSC
V.OSC
V.DRIVE
H.BLK PULSE V.BLK PULSE
RB01
1M
CB02
1u
RB02
33
CB03
47u/10
CB04
4700p
RB03
4.7K
RB04
470K
CB05
2.2u/6
RB05
82K
VRB01
50KB
AFC
RB06
47K
RB26
270K
CB07
0.1u
RB07
3.3
VRB02
220B
V.SIZE
RB08
100
RB09
470
RB10
1.8K
RB21
3.3K
LB03
ELH-5L222
CB15
22u/16
CNB02
DY V
DY V
DY H
DY H
V
H
FROM/TO DY
DEFL-YOKE
2400-54 N-TYPE
RB22
000
CB17
0.1u
VRB04
1MB
BRIGHT
FOCUS
FTB01
ECX-C2806C
FBT
H.V
CRT-B/W
M01KXX90WB
LB01
47uH
CB13
100u/6.3
CB14
22u/16
RB17
560
RB24
1K
QB03
2SA1179
CB12
1u
DB03
MA151K
QB02
2SD968A
H.DRIVE
CB16
3900p
DB04
MA158
RB23
000
CB18
3.3u/50
CB19
1500p
RB19
3.3M
RB20
3.3M
RB18
18
CNB01
VF HD
VF CVBS
VF GND
VF 5V
FROM/TO VIDEO
CN301
RB11
4.7K
CONTRAST
RB25
6.2K
CB09
10u/16
RB12
5.1K
RB13
1K
CB10
150p
QB01
2SA1179
VIDEO AMP
CB11
3.3u/50
RB14
82K
RB15
8.2K
RB16
39K
DB02
MA153
RB30
000
SOCKET-CRT
G2
H.K
H
G1
CNB03
G2
NC
H.K
HEATER
G1
SOCKET-CRT

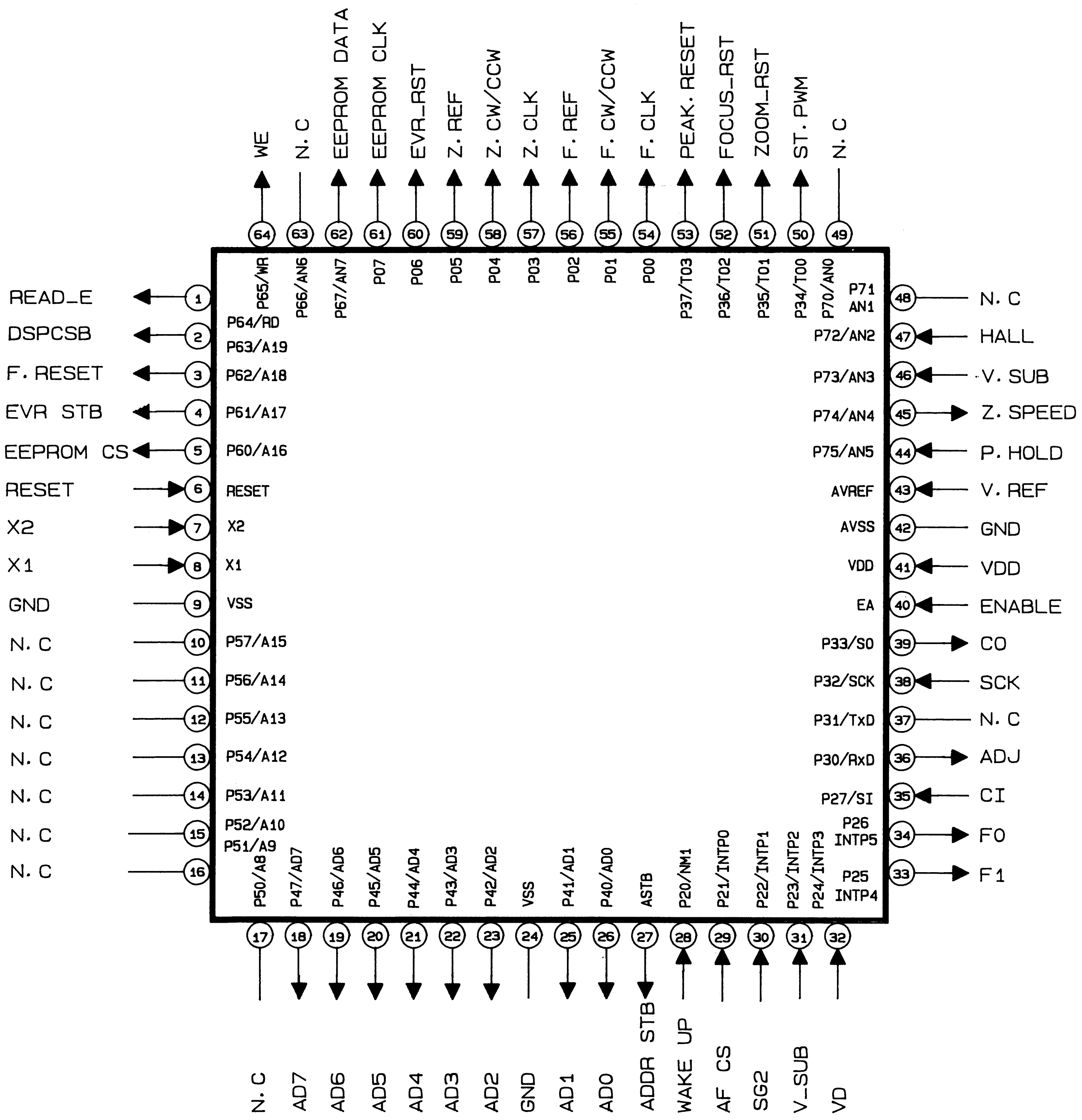
PIN NO	VOLTAGE(DC)
ICB01	AN2512S
1	2.1
2	5.0
3	2.0
4	0.0
5	2.1
6	0.7
7	2.0
8	
9	0.0
10	0.0
11	1.9
12	4.7
13	2.8
14	2.5
15	1.9
16	3.9
QB01	2SA1179
E	3.5
B	3.0
C	-15.0
QB02	2SD968A
E	0.0
B	0.4
C	4.5

13-12. AUTO

PIN NO	VOLTAGE(DC)
ICA01	TB6504F
1	0.0
2	4.8
3	4.8
4	4.8
5	
6	
7	4.8
8	7.6
9	0.5
10	0.0
11	0.4
12	3.1
13	3.1
14	0.4
15	0.0
16	0.5
17	7.6
18	
19	0.0
20	4.8
21	0.0
22	1.9
23	0.0
24	4.8
ICA02	TB6504F
1	0.0
2	5.0
3	5.0
4	0.0
5	
6	
7	5.0
8	7.3
9	7.3
10	0.0
11	0.0
12	7.3
13	0.3
14	0.2
15	0.0
16	3.0
17	7.3
18	
19	0.0
20	4.9
21	0.0
22	1.9
23	0.0
24	5.0
ICA03	X24C01
1	0.0
2	0.0
3	0.0
4	0.0
5	4.9
6	0.0
7	0.0
8	0.0
ICA04	UPD78214GC
1	5.0
2	0.0
3	0.0
4	0.0
5	5.0
6	5.0
7	2.2
8	2.4
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	0.0
19	0.0
20	0.0
21	0.0
22	0.0
23	0.0
24	0.0
25	0.0
26	0.0
27	0.0
28	5.0
29	4.4
30	4.7
31	4.5
32	4.6
33	4.9
34	4.9
35	4.4
36	0.0
37	
38	4.9
39	4.9
40	5.0
41	5.0
42	0.0
43	2.9
44	0.0
45	0.0
46	2.0
47	2.0
48	
49	
50	5.0
51	4.7
52	0.0
53	0.0
54	0.0
55	0.0
56	0.0
57	0.0
58	5.0
59	
60	0.0
61	0.0
62	0.0
63	
64	5.0
ICA05	MB88346
1	0.0
2	2.8
3	2.1
4	2.7
5	1.6
6	0.0
7	2.0
8	3.0
9	0.0
10	4.9
11	4.9
12	
13	
14	
15	0.0
16	0.1
17	0.0
18	
19	
20	0.0
ICA06	NJM3414
1	3.0
2	3.0
3	3.0
4	0.0
5	2.2
6	2.2
7	2.0
8	4.9
ICA07	NJM3403
1	2.2
2	2.2
3	2.2
4	4.9
5	2.2
6	2.2
7	2.2
8	2.1
9	2.2
10	2.2
11	0.0
12	2.2
13	2.2
14	2.2
QA01	DTA144EU
E	0.0
B	0.0
C	4.8
QA02	DTC144EU
E	0.0
B	4.7
C	0.0
QA03	DTC144EU
E	0.0
B	0.0
C	3.5
QA04	2SA1179
E	4.2
B	2.7
C	0.0
QA05	IMZ1
1	4.9
2	2.2
3	2.7
4	0.0
5	2.7
6	2.2
QA06	2SA1576
E	2.2
B	1.6
C	0.0
QA07	2SC2812
E	1.6
B	2.2
C	4.9
QA08	IMZ1
1	4.9
2	2.2
3	2.7
4	0.0
5	2.7
6	2.2
QA10	QTC144EU
E	0.0
B	5.0
C	0.0
QA11	2SA1179
E	4.8
B	4.2
C	4.8
QA12	2SC4081
E	0.0
B	0.3
C	3.7
QA13	2SA1179
E	5.0
B	4.8
C	0.9
QA14	DTC144EU
E	0.0
B	0.0
C	5.0
QA15	DTA144EU
E	5.0
B	4.9
C	0.0

The schematic diagram of "AUTO" is on page 13-21.

ICA07 UPD78214



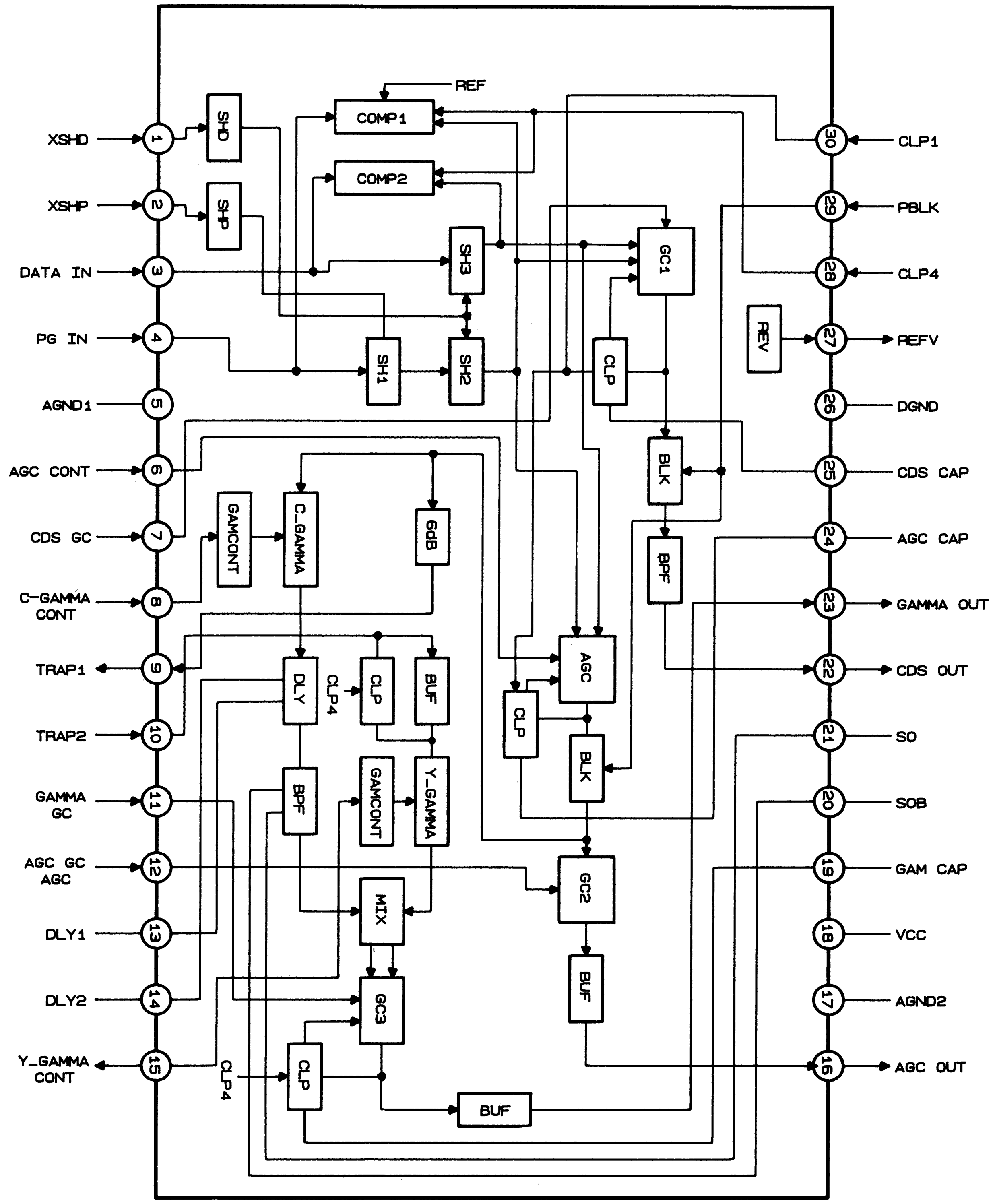
READ_E
DSPCSB
F. RESET
EVR STB
EEPROM CS
RESET
X2
X1
GND
N. C
N. C
N. C
N. C
N. C
N. C
N. C
P64/RD
P63/A19
P62/A18
P61/A17
P60/A16
RESET
X2
X1
VSS
P57/A15
P56/A14
P55/A13
P54/A12
P53/A11
P52/A10
P51/A9
WE
N. C
EEPROM DATA
EEPROM CLK
EVR_RST
Z. REF
Z. CW/CCW
Z. CLK
F. REF
F. CW/CCW
F. CLK
PEAK. RESET
FOCUS_RST
ZOOM_RST
ST. PWM
N. C
P65/WR
P66/AN6
P67/AN7
P07
P06
P05
P04
P03
P02
P01
P00
P37/T03
P36/T02
P35/T01
P34/T00
P70/AN0
P71 AN1
N. C
HALL
V. SUB
Z. SPEED
P. HOLD
V. REF
GND
VDD
ENABLE
CO
SCK
N. C
ADJ
CI
FO
F1
P72/AN2
P73/AN3
P74/AN4
P75/AN5
AVREF
AVSS
VDD
EA
P33/SO
P32/SCK
P31/TxD
P30/RxD
P27/SI
P26 INTP5
P25 INTP4
P50/A8
P47/AD7
P46/AD6
P45/AD5
P44/AD4
P43/AD3
P42/AD2
VSS
P41/AD1
P40/AD0
ASTB
P20/NMI
P21/INTP0
P22/INTP1
P23/INTP2
P24/INTP3
N. C
AD7
AD6
AD5
AD4
AD3
AD2
GND
AD1
AD0
ADDR STB
WAKE UP
AF CS
SG2
V_SUB
VD

The schematic diagram of "PROCESS" is on page 13-22.

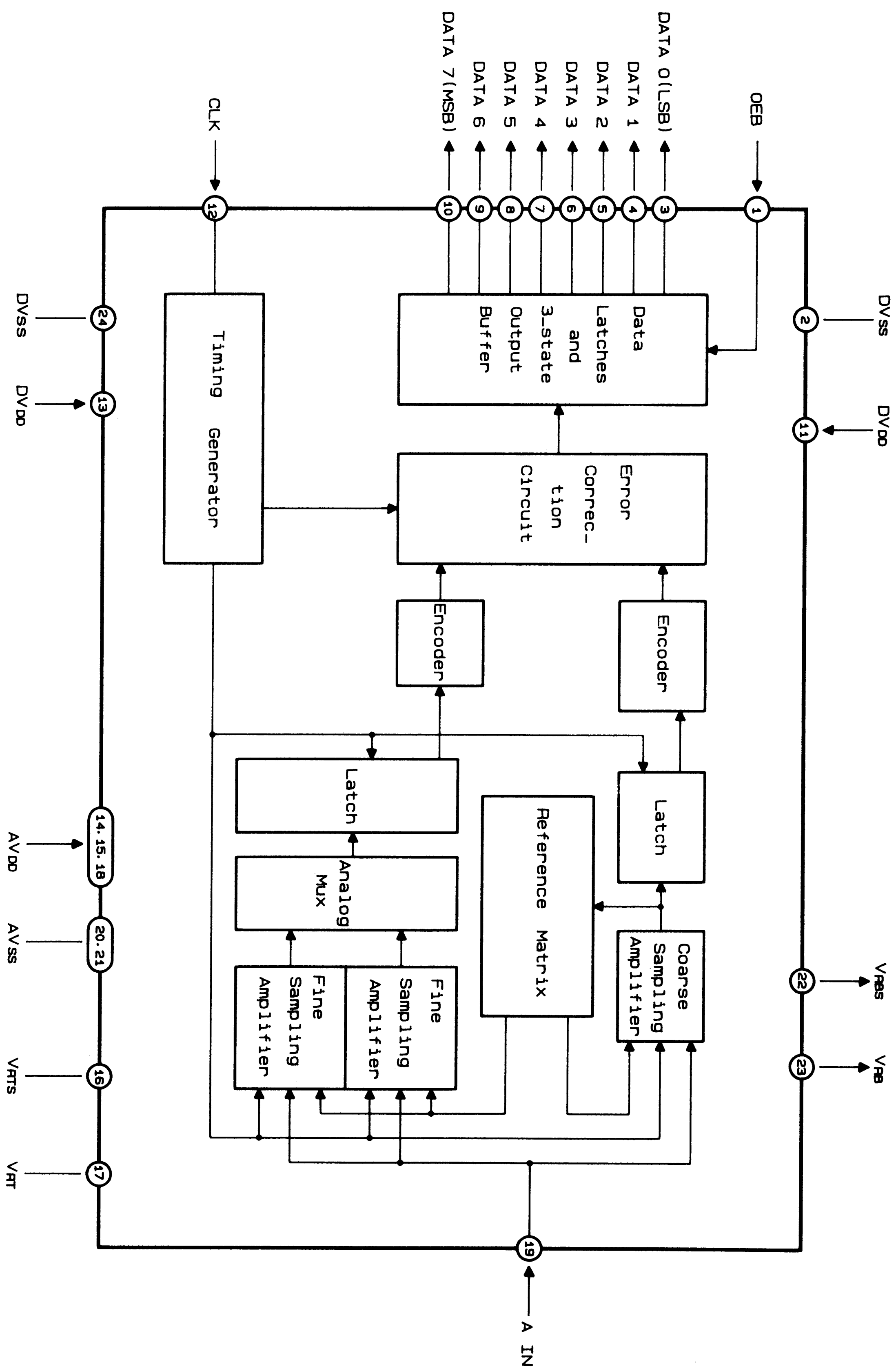
13-13. PROCESS

PIN NO	VOLTAGE(DC)
ICP01	ICX055AK
1	-6.3
2	-6.3
3	-0.2
4	-0.2
5	0.0
6	1.9
7	1.8
8	9.7
9	14.8
10	0.0
11	11.4
12	-6.6
13	2.8
14	0.0
15	2.7
16	2.1
ICP02	KS7220
1	0.0
2	4.4
3	0.2
4	0.2
5	4.8
6	4.6
7	4.8
8	4.6
9	5.0
10	0.0
11	0.0
12	14.8
13	-6.3
14	-6.3
15	0.0
16	-0.2
17	-0.2
18	-6.6
19	-6.6
20	14.8
ICP03	KS7302
1	4.7
2	3.7
3	2.9
4	2.8
5	0.0
6	1.6
7	3.7
8	0.0
9	1.5
10	2.2
11	3.7
12	5.0
13	2.1
14	2.1
15	2.5
16	0.0
17	0.0
18	5.0
19	2.2
20	2.2
21	2.2
22	1.8
23	1.9
24	2.2
25	2.1
26	0.0
27	1.8
28	0.3
29	4.0
30	0.2
ICP04	KAD0228
1	0.0
2	0.0
3	2.1
4	2.1
5	2.2
6	2.5
7	1.1
8	0.0
9	0.0
10	0.0
11	5.0
12	0.1
13	5.0
14	5.0
15	5.0
16	2.7
17	2.7
18	5.0
19	0.7
20	0.0
21	0.0
22	0.6
23	0.6
24	0.0
ICP05	KDA0408
1	
2	0.0
3	3.9
4	0.0
5	4.4
6	0.0
7	3.9
8	0.0
9	
10	4.9
11	4.9
12	4.9
13	
14	0.0
15	0.0
16	0.0
17	0.0
18	0.0
19	0.0
20	0.0
21	0.0
22	0.0
23	0.1
24	
25	0.0
26	0.0
27	2.3
28	1.7
29	1.7
30	1.7
31	3.2
32	1.3
33	1.3
34	1.3
35	1.3
36	1.3
37	
38	1.7
39	1.5
40	2.3
41	2.5
42	4.9
43	0.0
44	4.9
45	2.5
46	4.9
47	3.9
48	
ICP06	KS7301
1	
2	2.0
3	2.3
4	
5	0.0
6	0.0
7	4.8
8	0.0
9	0.0
10	0.0
11	0.0
12	0.0
13	0.0
14	1.2
15	0.2
16	
17	0.1
18	0.1
19	4.0
20	4.0
21	0.0
22	4.0
23	2.7
24	2.1
25	0.8
26	4.8
27	4.8
28	4.8
29	0.2
30	0.2
31	4.6
32	4.6
33	4.8
34	0.0
35	2.4
36	2.4
37	4.8
38	4.8
39	4.8
40	4.8
41	0.0
42	
43	
44	0.0
45	0.0
46	0.0
47	0.0
48	4.8
49	4.8
50	
51	0.0
52	0.0
53	
54	4.8
55	0.0
56	4.8
57	0.0
58	0.0
59	0.0
60	0.0
61	0.0
62	0.0
63	0.0
64	0.0
65	0.0
66	
67	
68	0.0
69	
70	0.0
71	
72	
73	
74	
75	
76	
77	
78	
79	
80	
81	4.8
82	
83	
84	
85	
86	
87	
88	
89	
90	
91	
92	
93	
94	
95	0.0
96	
97	
98	
99	
100	
101	
102	
103	
104	
105	
106	
107	
108	
109	2.7
110	2.4
111	
112	3.4
113	
114	2.5
115	1.2
116	2.0
117	0.2
118	3.5
119	0.0
120	0.0
121	0.1
122	0.1
123	0.0
124	2.0
125	1.7
126	1.8
127	1.8
128	1.7
129	1.7
130	1.7
131	4.8
132	3.1
133	
134	
135	
136	4.7
137	0.0
138	4.8
139	
140	
141	4.8
142	4.8
143	2.9
144	2.1
145	2.3
146	2.5
147	1.1
148	0.0
149	0.0
150	0.0
151	4.8
152	0.0
153	0.0
154	0.0
155	0.0
156	0.0
157	0.0
158	0.0
159	0.0
160	0.0
QP01	2SK300
D	10.2
G	9.7
S	14.5
QP02	IMZ1
1	2.1
2	1.6
3	2.1
4	0.0
5	1.6
6	2.2
QP03	IMX1
1	14.8
2	2.2
3	1.7
4	12.9
5	2.2
6	1.7
QP04	IMX1
1	5.0
2	0.1
3	1.2
4	1.2
5	1.9
6	1.3
QP05	IMZ1
1	5.0
2	0.6
3	1.2
4	0.0
5	1.4
6	0.7
QP004	2SC2812
E	0.1
B	1.5
C	5.0
QP005	2SA1179
E	1.1
B	0.5
C	0.0
QP06	2SC2812
E	4.2
B	4.8
C	5.0
QP07	2SC2812
E	2.3
B	2.8
C	3.7
QP08	2SC2812
E	3.1
B	3.7
C	5.0
QP09	2SC2812
E	3.5
B	4.1
C	5.0
QP10	2SC2812
E	3.5
B	4.1
C	4.9
QP11	2SC2812
E	3.8
B	4.4
C	5.0
QP12	2SC2812
E	2.6
B	3.3
C	5.0
QP13	2SC2812
E	1.9
B	2.5
C	3.9
QP14	2SC2812
E	3.2
B	3.9
C	5.0
QP15	2SC4081
E	1.8
B	2.3
C	5.0
QP16	2SC2812
E	12.4
B	12.9
C	19.5
QP17	2SC2812
E	2.1
B	0.1
C	2.0

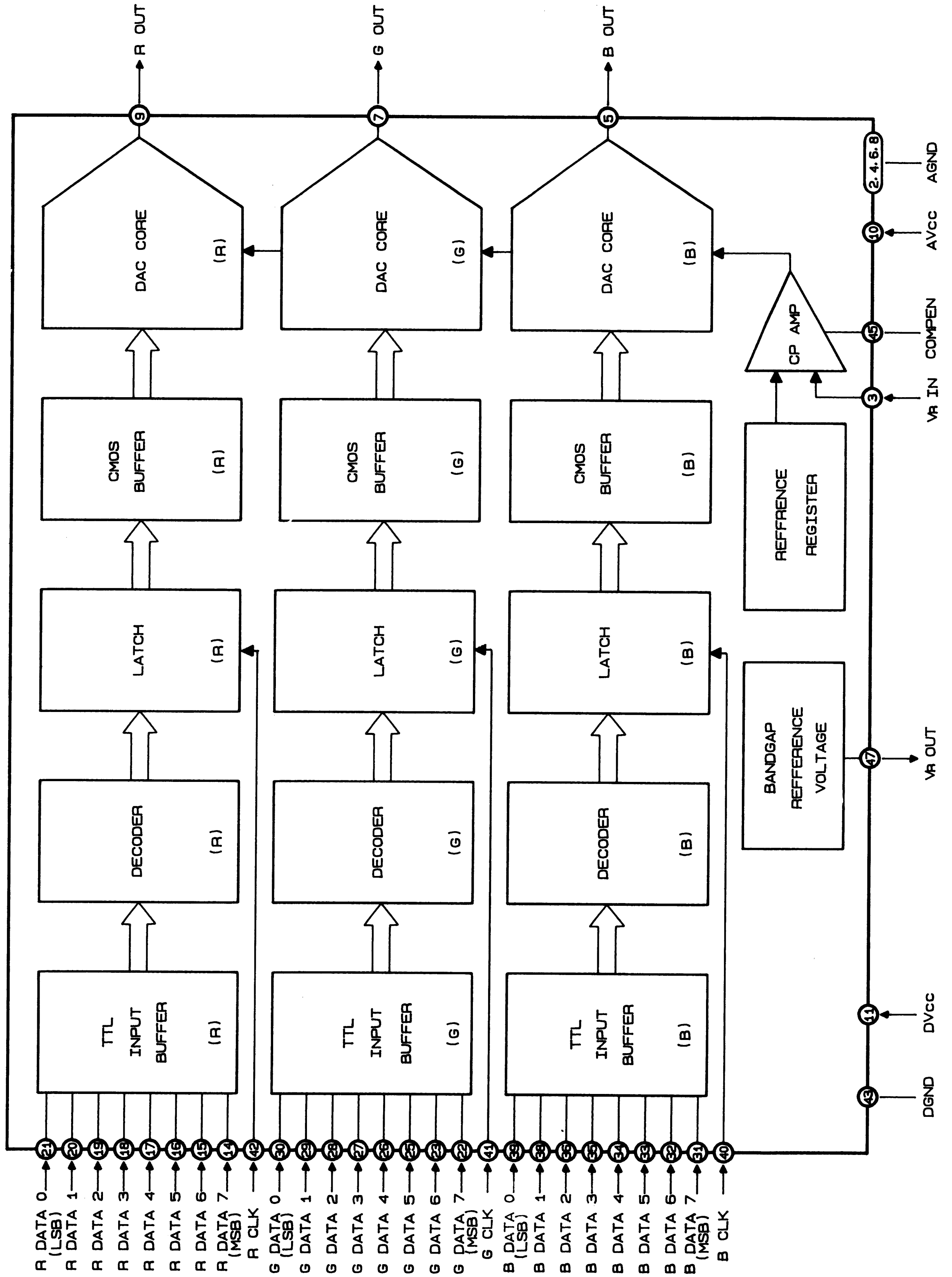
ICP03 KA7302


XSHD
XSHP
DATA IN
PG IN
AGND1
AGC CONT
CDS GC
C-GAMMA CONT
TRAP1
TRAP2
GAMMA GC
AGC GC AGC
DLY1
DLY2
Y_GAMMA CONT
CLP1
PBLK
CLP4
REFV
DGND
CDS CAP
AGC CAP
GAMMA OUT
CDS OUT
SO
SOB
GAM CAP
VCC
AGND2
AGC OUT
REF
COMP1
COMP2
SHD
SHP
SH3
SH1
SH2
GC1
CLP
REV
BLK
BPF
GAMCONT
C_GAMMA
6dB
AGC
DLY
CLP4
CLP
BUF
BLK
GC2
BPF
GAMCONT
Y_GAMMA
MIX
GC3
BUF
CLP
CLP4
BUF
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30

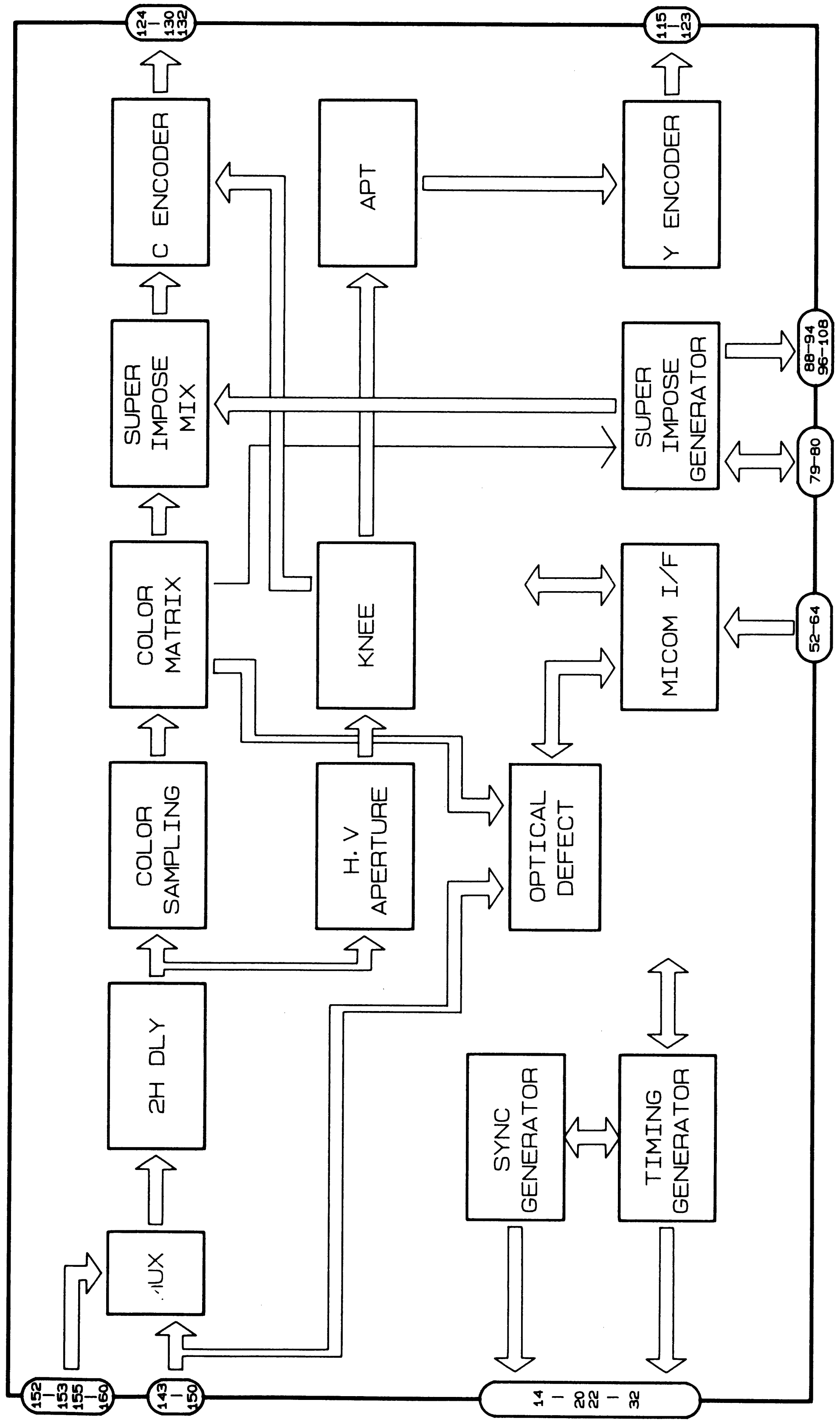
ICP04 KAD0228


CLK
DATA 7(MSB)
DATA 6
DATA 5
DATA 4
DATA 3
DATA 2
DATA 1
DATA 0(LSB)
OEB
DVss
DVDD
DVss
DVDD
AVDD
AVss
VRTS
VRT
VRBS
VRB
A IN
Timing Generator
Data Latches and 3-state Output Buffer
Error Correc-tion Circuit
Encoder
Encoder
Latch
Analog Mux
Latch
Reference Matrix
Fine Sampling Amplifier
Fine Sampling Amplifier
Coarse Sampling Amplifier
12
10
9
8
7
6
5
4
3
1
24
13
2
11
14.15.18
20.21
16
17
22
23
19

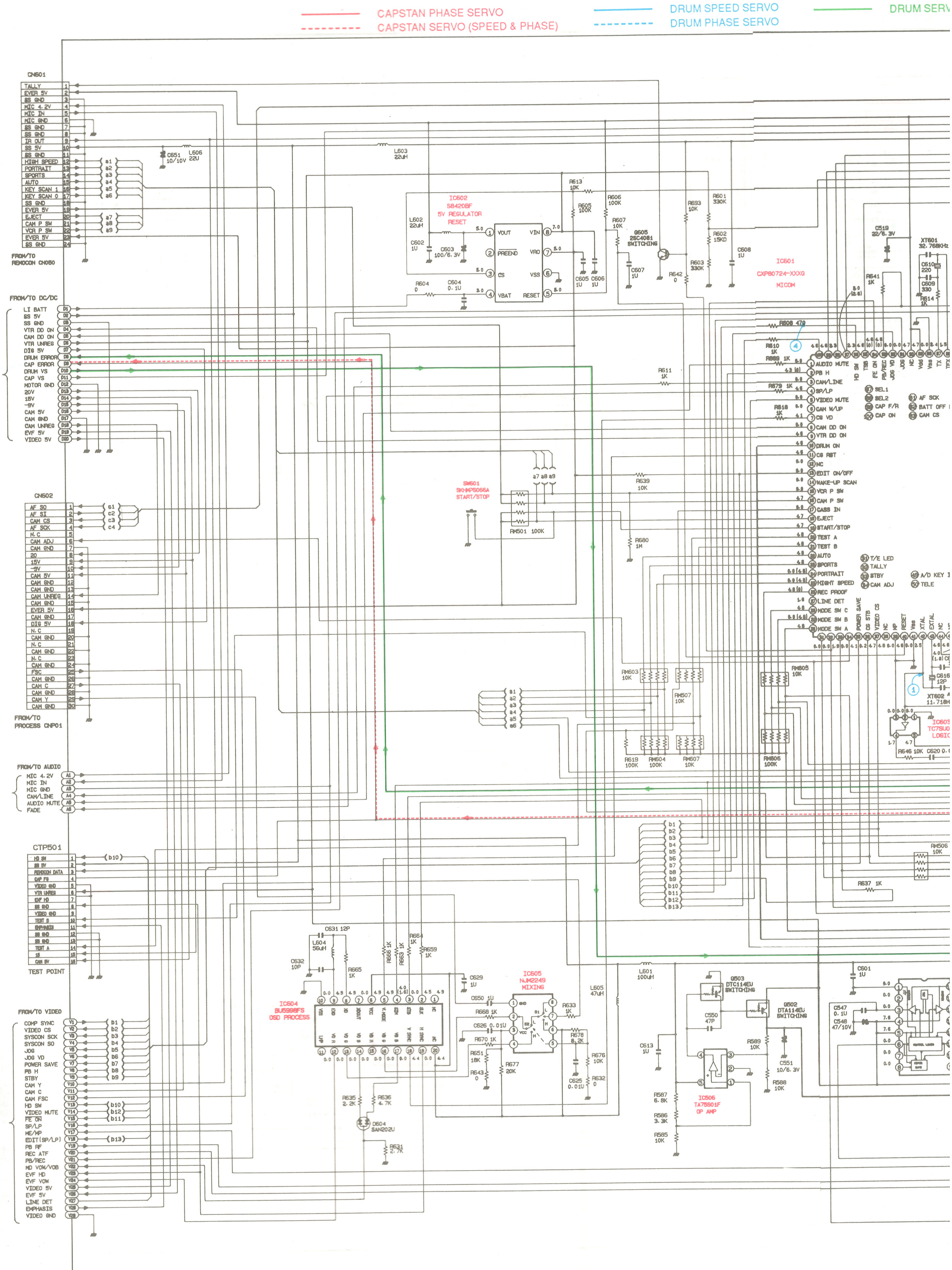
ICP05 KDA0408


R OUT
G OUT
B OUT
9
7
5
2,4,6,8
AGND
10
AVcc
45
COMPEN
3
VR IN
47
VR OUT
11
DVcc
43
DGND
DAC CORE (R)
DAC CORE (G)
DAC CORE (B)
CP AMP
CMOS BUFFER (R)
CMOS BUFFER (G)
CMOS BUFFER (B)
REFFRENCE REGISTER
LATCH (R)
LATCH (G)
LATCH (B)
BANDGAP REFFERENCE VOLTAGE
DECODER (R)
DECODER (G)
DECODER (B)
TTL INPUT BUFFER (R)
TTL INPUT BUFFER (G)
TTL INPUT BUFFER (B)
21
20
19
18
17
16
15
14
42
30
29
28
27
26
25
24
23
22
41
39
38
37
36
35
34
33
32
31
40
R DATA 0 (LSB)
R DATA 1
R DATA 2
R DATA 3
R DATA 4
R DATA 5
R DATA 6
R DATA 7 (MSB)
R CLK
G DATA 0 (LSB)
G DATA 1
G DATA 2
G DATA 3
G DATA 4
G DATA 5
G DATA 6
G DATA 7 (MSB)
G CLK
B DATA 0 (LSB)
B DATA 1
B DATA 2
B DATA 3
B DATA 4
B DATA 5
B DATA 6
B DATA 7 (MSB)
B CLK

ICP06 KS7301

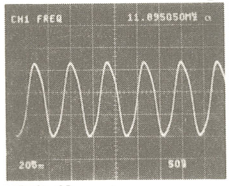

124 | 130 132
115 | 123
C ENCODER
APT
Y ENCODER
SUPER IMPOSE MIX
SUPER IMPOSE GENERATOR
88-94 96-108
79-80
COLOR MATRIX
KNEE
MICOM I/F
52-64
COLOR SAMPLING
H. V APERTURE
OPTICAL DEFECT
2H DLY
SYNC GENERATOR
TIMING GENERATOR
MUX
152 153 155 | 160
143 | 150
14 | 20 22 | 32

13-3. SYSTEM CONTROL/SERVO


CAPSTAN PHASE SERVO
CAPSTAN SERVO (SPEED & PHASE)
DRUM SPEED SERVO
DRUM PHASE SERVO
DRUM SERV
CN501
TALLY
EVER 5V
SS GND
MIC 4.2V
MIC IN
MIC GND
SS GND
SS GND
IR OUT
SS 5V
SS GND
HIGH SPEED
PORTRAIT
SPORTS
AUTO
KEY SCAN 1
KEY SCAN 0
SS GND
EVER 5V
EJECT
CAM P SW
VCR P SW
EVER 5V
SS GND
FROM/TO REMOCON CN050
FROM/TO DC/DC
LI BATT
SS 5V
SS GND
VTR DD ON
CAM DD ON
VTR UNREG
DIG 5V
DRUM ERROR
CAP ERROR
DRUM VS
CAP VS
MOTOR GND
20V
15V
-9V
CAM 5V
CAM GND
CAM UNREG
EVF 5V
VIDEO 5V
CN502
AF SO
AF SI
CAM CS
AF SCK
N.C
CAM ADJ
CAM GND
20
15V
-9V
CAM 5V
CAM GND
CAM GND
CAM UNREG
CAM GND
EVER 5V
CAM GND
DIG 5V
N.C
CAM GND
N.C
CAM GND
N.C
CAM GND
FSC
CAM GND
CAM C
CAM GND
CAM Y
CAM GND
FROM/TO PROCESS CNP01
FROM/TO AUDIO
MIC 4.2V
MIC IN
MIC GND
CAM/LINE
AUDIO MUTE
FADE
CTP501
TEST POINT
FROM/TO VIDEO
COMP SYNC
VIDEO CS
SYSCON SCK
SYSCON SO
JOG
JOG VD
POWER SAVE
PB H
STBY
CAM Y
CAM C
CAM FSC
HD SW
VIDEO MUTE
FE ON
SP/LP
HE/HP
EDIT(SP/LP)
PB RF
REC ATF
PB/REC
HD VOW/VOB
EVF HD
EVF VOW
VIDEO 5V
EVF 5V
LINE DET
EMPHASIS
VIDEO GND
C651 10/10V
L606 22U
L603 22UH
IC602
S8420BF
5V REGULATOR
RESET
VOUT
VIN
PREEND
VRO
CS
VSS
VBAT
RESET
L602 22UH
C602 1U
C603 100/6.3V
R604 0
C604 0.1U
C605 1U
C606 1U
R613 10K
R605 100K
R606 100K
R607 10K
Q605 2SC4081 SWITCHING
C607 1U
R693 10K
R601 330K
R602 15KΩ
R603 330K
R642 0
C608 1U
IC601
CXP80724-XXXQ
MICOM
C519 22/6.3V
XT601 32.768KHz
C610 220
C609 330
R641 1K
R614 1K
R608 470
R610 1K
R688 1K
R611 1K
R679 1K
R618 1K
AUDIO MUTE
PB H
CAM/LINE
SP/LP
VIDEO MUTE
CAM W/UP
CS VD
CAM DD ON
VTR DD ON
DRUM ON
CS RST
NC
EDIT ON/OFF
WAKE-UP SCAN
VCR P SW
CAM P SW
CASS IN
EJECT
START/STOP
TEST A
TEST B
AUTO
SPORTS
PORTRAIT
HIGHT SPEED
REC PROOF
LINE DET
MODE SW C
MODE SW B
MODE SW A
SEL1
SEL2
CAP F/R
CAP ON
AF SCK
BATT OFF
CAM CS
T/E LED
TALLY
STBY
CAM ADJ
A/D KEY
TELE
SW601
SKHMPS056A
START/STOP
RM501 100K
R639 10K
R680 1M
RM503 10K
RM507 10K
RM505 10K
R619 100K
RM504 100K
RM607 10K
RM506 100K
XT602 11.718M
IC603
TC7SU
LOGIC
R646 10K
C620
C616 12P
RM506 10K
R637 1K
C631 12P
L604 56uH
C632 10P
R665 1K
R656 1K
R663 1K
R664 1K
R659 1K
C629 1U
IC604
BU5998FS
OSD PROCESS
IC605
NJM2249
MIXING
C650 1U
R668 1K
C626 0.01U
R670 1K
R651 18K
R643 0
R677 20K
R633 1K
R678 8.2K
R676 10K
R632 0
C625 0.01U
L605 47uH
R635 2.2K
R636 4.7K
D604 SAN202U
R631 2.7K
L601 100uH
C613 1U
Q503 DTC114EU SWITCHING
Q502 DTA114EU SWITCHING
C550 47P
R589 10K
C551 10/6.3V
R588 10K
IC506 TA75S01F OP AMP
R587 6.8K
R586 3.3K
R585 10K
C501 1U
C547 0.1U
C548 47/10V

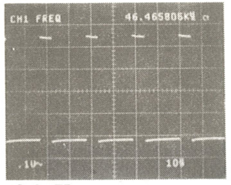
NOTE : " ▭ " IS CONNECTED WITH JUMPER IN THE BOARD
: VOLTAGE TAKEN IN THE PLAY MODE ( ) IS ROCORD MODE.

①



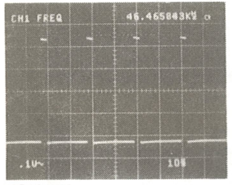
IC601-42
PLAY
20mVp-p

②



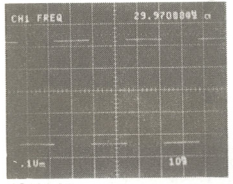
IC601-75
PLAY
100mVp-p

③



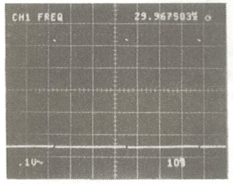
IC601-76
PLAY
100mVp-p

④



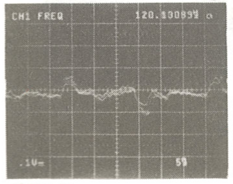
IC601-96
PLAY
100mVp-p

⑤



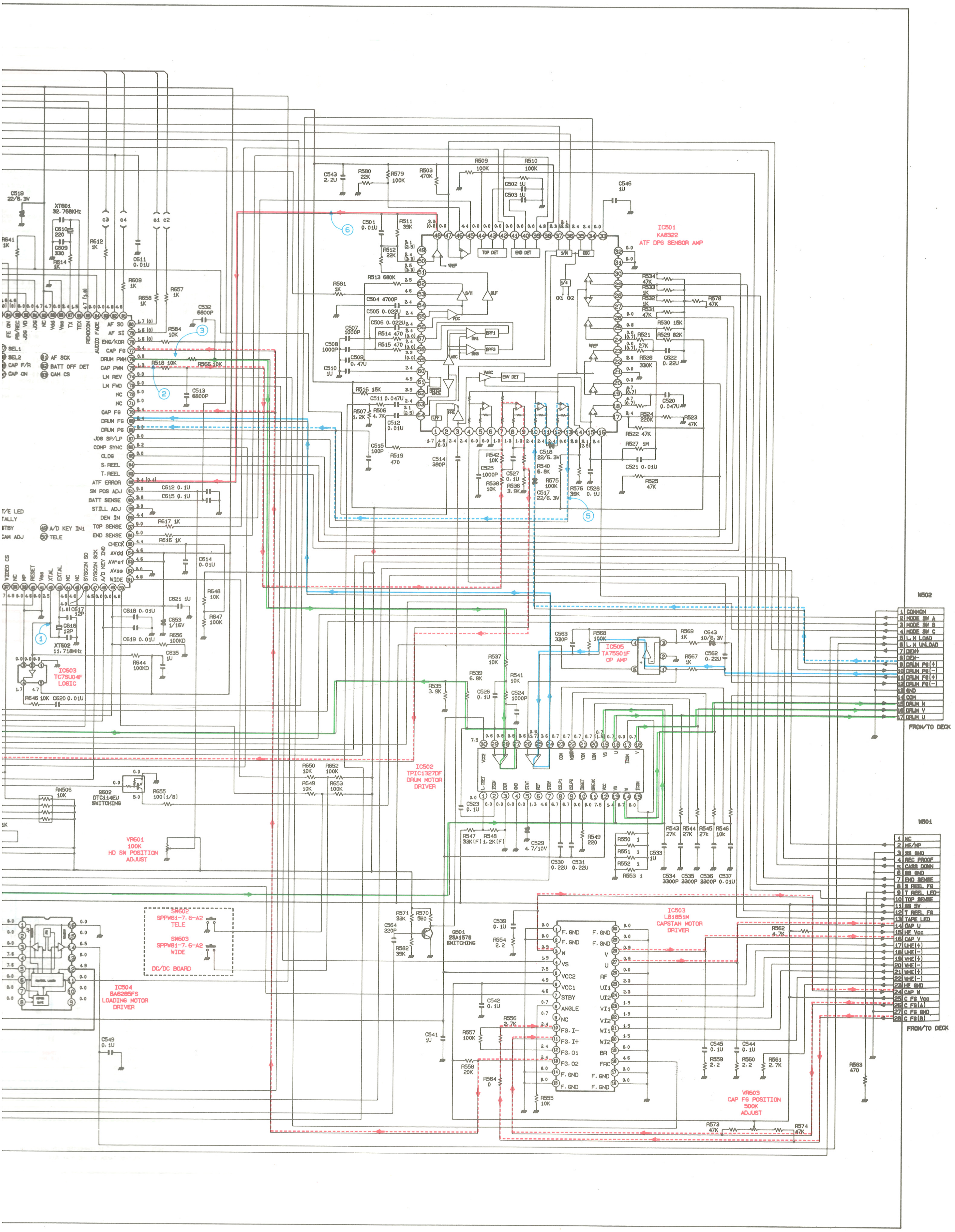
IC501-13
PLAY
100mVp-p

⑥

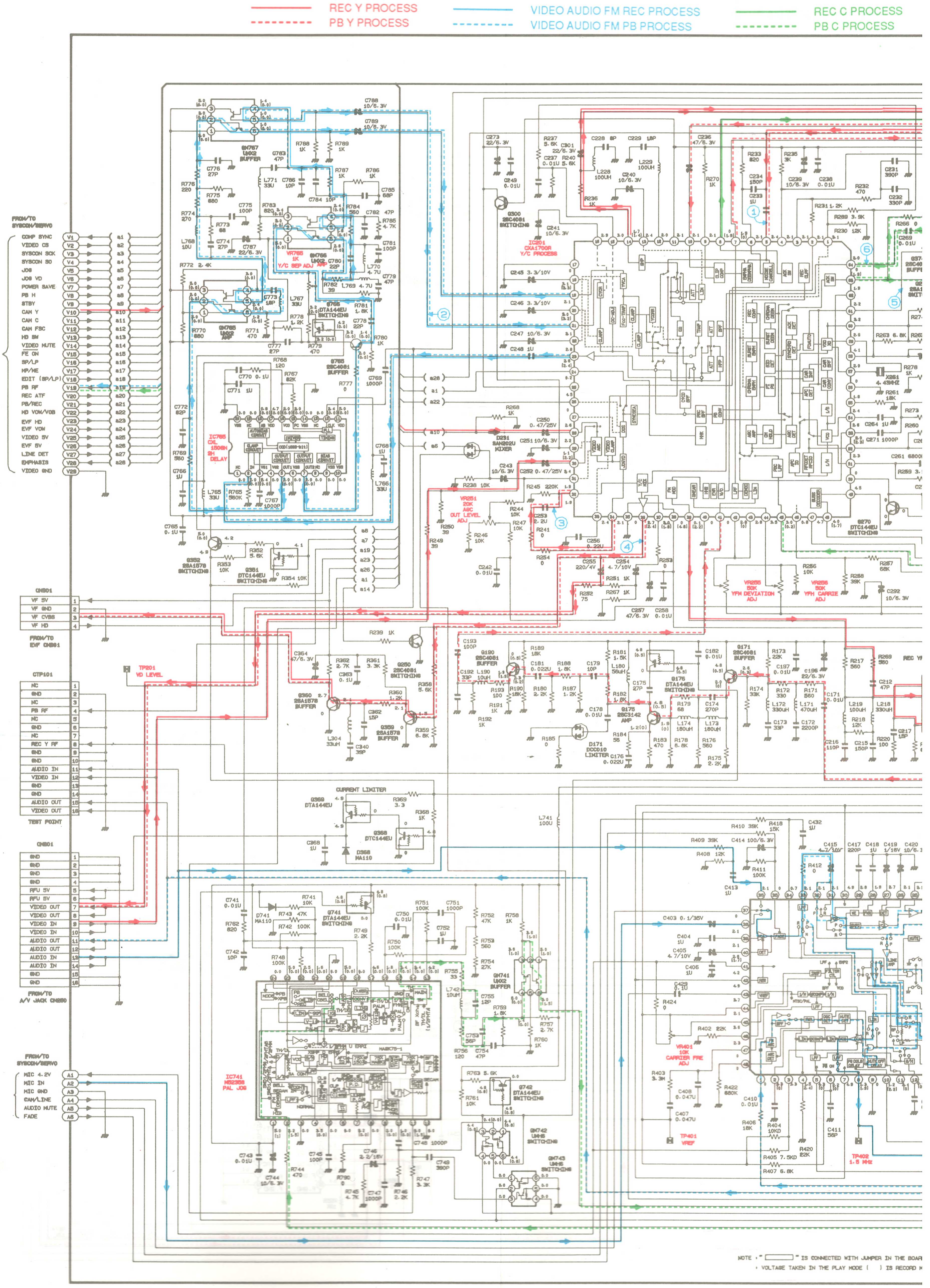


IC501-48
PLAY
100mVp-p

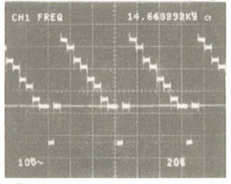
DRUM SERVO (SPEED & PHASE)


IC501
KA8322
ATF DPG SENSOR AMP
IC502
TPIC1327DF
DRUM MOTOR
DRIVER
IC503
LB1851M
CAPSTAN MOTOR
DRIVER
IC504
BA6285FS
LOADING MOTOR
DRIVER
IC505
TA75S01F
OP AMP
IC603
TC7SU04F
LOGIC
Q501
2SA1578
SWITCHING
Q602
DTC114EU
SWITCHING
VR501
100K
HD SW POSITION
ADJUST
VR503
CAP FG POSITION
500K
ADJUST
SW602
SPPW81-7.6-A2
TELE
SW603
SPPW81-7.6-A2
WIDE
DC/DC BOARD
XT601
32.768KHz
XT602
11.718MHz
AF SO
AF SI
ENG/KOR
CAP FG
DRUM PWM
CAP PWM
LM REV
LM FWD
NC
NC
CAP FG
DRUM FG
DRUM PG
JOG SP/LP
COMP SYNC
CLOG
S.REEL
T.REEL
ATF ERROR
SW POS ADJ
BATT SENSE
STILL ADJ
DEW IN
TOP SENSE
END SENSE
CHECK
AVdd
AVref
AVss
WIDE
A/D KEY IN1
TELE
AF SCK
BATT OFF DET
CAM CS
SEL1
SEL2
CAP F/R
CAP ON
T/E LED
TALLY
STBY
CAM ADJ
TOP DET
END DET
OSC
VREF
S/H
BLF
PDC
BPF1
BPF3
BH1
BH3
AGC
VAGC
ENV DET
F.GND
W
VS
VCC2
VCC1
STBY
ANGLE
NC
FG.I-
FG.I+
FG.O1
FG.O2
V
U
RF
UI1
UI2
VI1
VI2
WI1
WI2
BR
FRC
W502
1 COMMON
2 MODE SW A
3 MODE SW B
4 MODE SW C
5 L.M LOAD
6 L.M UNLOAD
7 DEW+
8 DEW-
9 DRUM PG(+)
10 DRUM PG(-)
11 DRUM FG(+)
12 DRUM FG(-)
13 GND
14 COM
15 DRUM W
16 DRUM V
17 DRUM U
FROM/TO DECK
W501
1 NC
2 ME/MP
3 SS GND
4 REC PROOF
5 CASS DOWN
6 SS GND
7 END SENSE
8 S REEL FG
9 T REEL LED-
10 TOP SENSE
11 SS 5V
12 T REEL FG
13 TAPE LED
14 CAP U
15 HE Vcc
16 CAP V
17 UHE(+)
18 UHE(-)
19 VHE(+)
20 VHE(-)
21 WHE(+)
22 WHE(-)
23 HE GND
24 CAP W
25 C FG Vcc
26 C FG(A)
27 C FG GND
28 C FG(B)
FROM/TO DECK

13-4. VIDEO/AUDIO

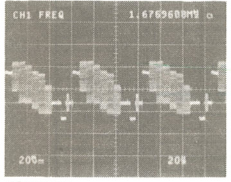

REC Y PROCESS
PB Y PROCESS
VIDEO AUDIO FM REC PROCESS
VIDEO AUDIO FM PB PROCESS
REC C PROCESS
PB C PROCESS
FROM/TO SYSCON/SERVO
COMP SYNC
VIDEO CS
SYSCON SCK
SYSCON SO
JOG
JOG VD
POWER SAVE
PB H
STBY
CAM Y
CAM C
CAM FSC
HD SW
VIDEO MUTE
FE ON
SP/LP
HP/HE
EDIT (SP/LP)
PB RF
REC ATF
PB/REC
HD VON/VOB
EVF HD
EVF VON
VIDEO 5V
EVF 5V
LINE DET
EMPHASIS
VIDEO GND
CN801
VF 5V
VF GND
VF CVBS
VF HD
FROM/TO EVF CN801
CTP101
NC
GND
PB RF
REC Y RF
AUDIO IN
VIDEO IN
AUDIO OUT
VIDEO OUT
TEST POINT
CN801
RFU 5V
FROM/TO A/V JACK CN850
FROM/TO SYSCON/SERVO
MIC 4.2V
MIC IN
MIC GND
CAM/LINE
AUDIO MUTE
FADE
IC201 CXA1700R Y/C PROCESS
IC765 CXL 1506M 8H DELAY
IC741 M52056 PAL JOG
VR765 1K Y/C SEP ADJ
VR251 20K AGC OUT LEVEL ADJ
VR255 50K YFM DEVIATION ADJ
VR256 50K YFM CARRIE ADJ
VR401 10K CARRIER FRE ADJ
TP201 VD LEVEL
TP401 VREF
TP402 1.5 MHz
CURRENT LIMITER
Q300 2SC4081 SWITCHING
D231 BAN202U MIXER
Q270 DTC144EU SWITCHING
Q190 2SC4081 BUFFER
Q171 2SC4081 BUFFER
Q176 DTA144EU SWITCHING
Q178 2SC3142 AMP
D171 DCG010 LIMITER
Q360 2SA1576 BUFFER
Q359 2SA1576 BUFFER
Q350 2SC4081 SWITCHING
Q369 DTA144EU
Q368 DTC144EU
D368 MA110
Q352 2SA1576 SWITCHING
Q351 DTC144EU SWITCHING
Q767 UMX2 BUFFER
Q766 UMX2 AMP
Q765 DTA144EU SWITCHING
Q768 UMX2 AMP
Q769 2SC4081 BUFFER
Q741 DTA144EU SWITCHING
Q741 UMX2 BUFFER
Q742 DTA144EU SWITCHING
Q742 UMH5 SWITCHING
Q743 UMH5 SWITCHING
NOTE : " " IS CONNECTED WITH JUMPER IN THE BOAR
: VOLTAGE TAKEN IN THE PLAY MODE ( ) IS RECORD M

①



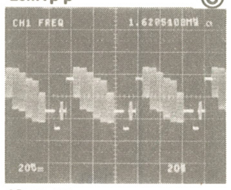
IC201-5
PLAY/REC
10mVp-p

②



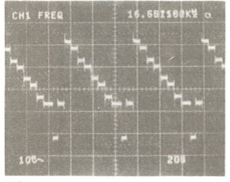
IC201-21
PLAY/REC
20mVp-p

③



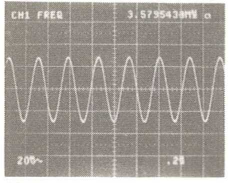
IC201-32
PLAY/REC
20mVp-p

④



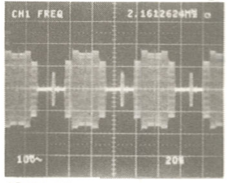
IC201-36
PLAY/REC
10mVp-p

⑤



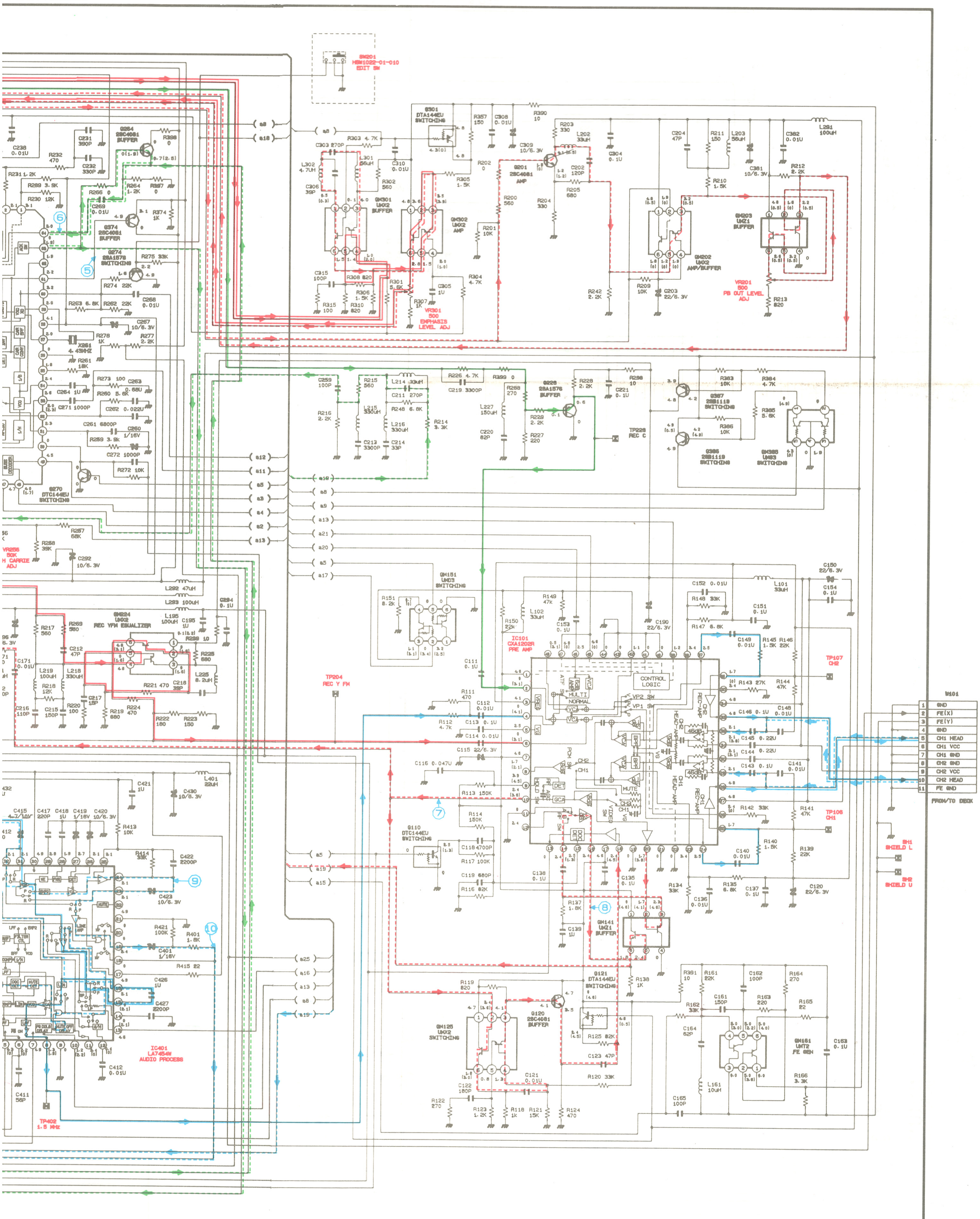
IC201-61
STOP
20mVp-p

⑥



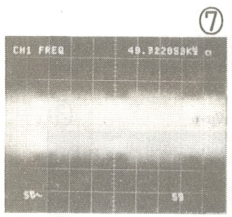
IC201-64
PLAY/REC
10mVp-p

REC C PROCESS
PB C PROCESS


SW201
HSW1022-01-010
EDIT SW
Q301
DTA144EU
SWITCHING
QM301
UMX2
BUFFER
QM302
UMX2
AMP
Q201
2SC4081
AMP
QM202
UMX2
AMP/BUFFER
QM203
UMZ1
BUFFER
VR201
500
PB OUT LEVEL
ADJ
VR301
500
EMPHASIS
LEVEL ADJ
Q264
2SC4081
BUFFER
Q374
2SC4081
BUFFER
Q274
2SA1576
SWITCHING
X261
4.43MHZ
Q270
DTC144EU
SWITCHING
VR255
50K
H CARRIE
ADJ
QM224
UMX2
REC YFM EQUALIZER
TP204
REC Y FM
Q228
2SA1576
BUFFER
TP228
REC C
Q387
2SB1119
SWITCHING
Q386
2SB1119
SWITCHING
QM388
UMG3
SWITCHING
QM151
UMG3
SWITCHING
IC101
CXA1202R
PRE AMP
CONTROL
LOGIC
TP107
CH2
TP106
CH1
W101
1 GND
2 FE(X)
3 FE(Y)
4 GND
5 CH1 HEAD
6 CH1 VCC
7 CH1 GND
8 CH2 GND
9 CH2 VCC
10 CH2 HEAD
11 FE GND
FROM/TO DECK
SH1
SHIELD L
SH2
SHIELD U
Q110
DTC144EU
SWITCHING
QM141
UMZ1
BUFFER
Q121
DTA144EU
SWITCHING
Q120
2SC4081
BUFFER
QM126
UMX2
SWITCHING
QM161
UMT2
FE OSC
IC401
LA7454W
AUDIO PROCESS
TP402
1.5 MHz
⑤
⑥
⑦
⑧
⑨
⑩

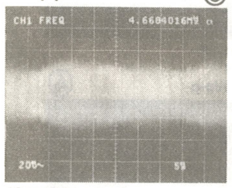
NNECTED WITH JUMPER IN THE BOARD
THE PLAY MODE ( ) IS RECORD MODE

⑦



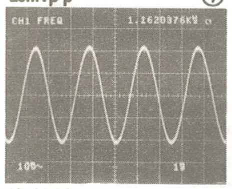
IC101-10
PLAY
5mVp-p

⑧



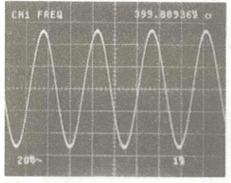
IC101-16
PLAY
20mVp-p

⑨



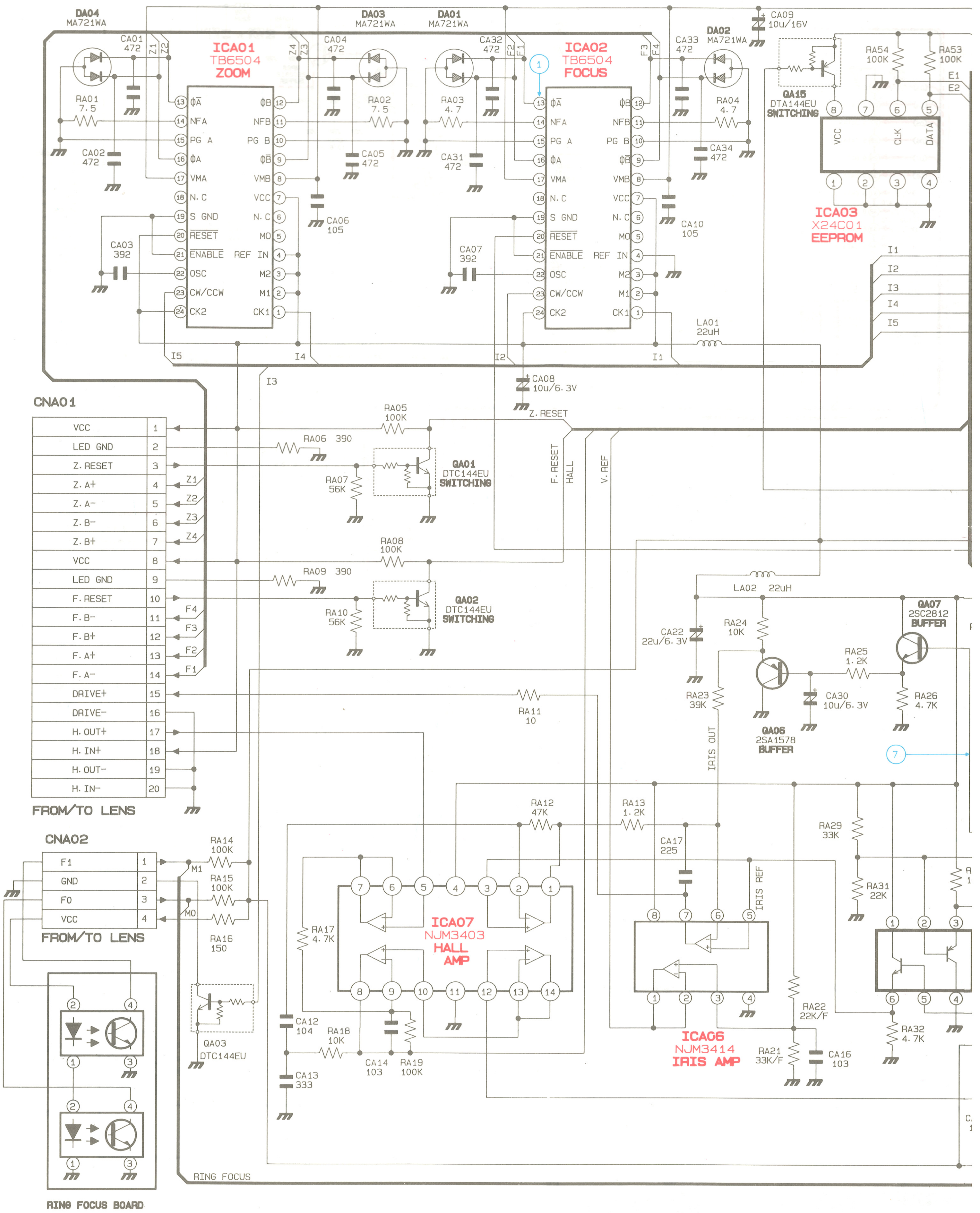
IC401-24
PLAY
10mVp-p

⑩

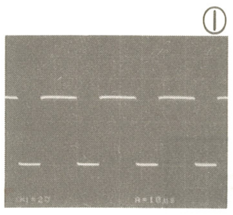


IC401-10
PLAY
20mVp-p

13-12. AUTO

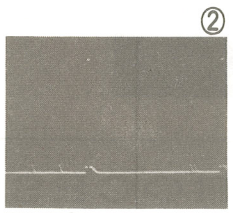

DA04
MA721WA
DA03
MA721WA
DA01
MA721WA
DA02
MA721WA
CA01
472
Z1
Z2
Z3
Z4
F1
F2
F3
F4
ICA01
TB6504
ZOOM
ICA02
TB6504
FOCUS
CA04
472
CA32
472
CA33
472
CA09
10u/16V
RA01
7.5
RA02
7.5
RA03
4.7
RA04
4.7
CA02
472
CA05
472
CA31
472
CA34
472
ΦA
NFA
PG A
VMA
N.C
S GND
RESET
ENABLE
OSC
CW/CCW
CK2
ΦB
NFB
PG B
VMB
VCC
MO
REF IN
M2
M1
CK1
CA06
105
CA10
105
CA03
392
CA07
392
I1
I2
I3
I4
I5
E1
E2
LA01
22uH
CA08
10u/6.3V
Z.RESET
QA15
DTA144EU
SWITCHING
RA54
100K
RA53
100K
VCC
CLK
DATA
ICA03
X24C01
EEPROM
CNA01
VCC
LED GND
Z.RESET
Z.A+
Z.A−
Z.B−
Z.B+
VCC
LED GND
F.RESET
F.B−
F.B+
F.A+
F.A−
DRIVE+
DRIVE−
H.OUT+
H.IN+
H.OUT−
H.IN−
FROM/TO LENS
RA05
100K
RA06 390
QA01
DTC144EU
SWITCHING
RA07
56K
RA08
100K
RA09 390
QA02
DTC144EU
SWITCHING
RA10
56K
F.RESET
HALL
V.REF
LA02 22uH
CA22
22u/6.3V
RA24
10K
RA23
39K
QA06
2SA1578
BUFFER
QA07
2SC2812
BUFFER
RA25
1.2K
CA30
10u/6.3V
RA26
4.7K
RA11
10
IRIS OUT
IRIS REF
CNA02
F1
GND
F0
VCC
FROM/TO LENS
M1
M0
RA14
100K
RA15
100K
RA16
150
QA03
DTC144EU
RA12
47K
RA13
1.2K
CA17
225
RA17
4.7K
ICA07
NJM3403
HALL
AMP
CA12
104
RA18
10K
CA13
333
CA14
103
RA19
100K
ICA06
NJM3414
IRIS AMP
RA29
33K
RA31
22K
RA22
22K/F
RA21
33K/F
CA16
103
RA32
4.7K
RING FOCUS
RING FOCUS BOARD

①



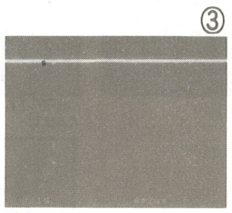
FOCUS

②



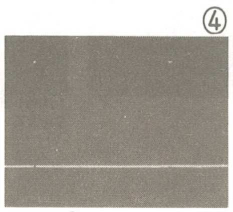
ICA04-39
CO

③



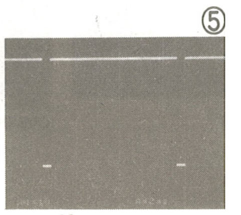
ICA04-38
SCK

④

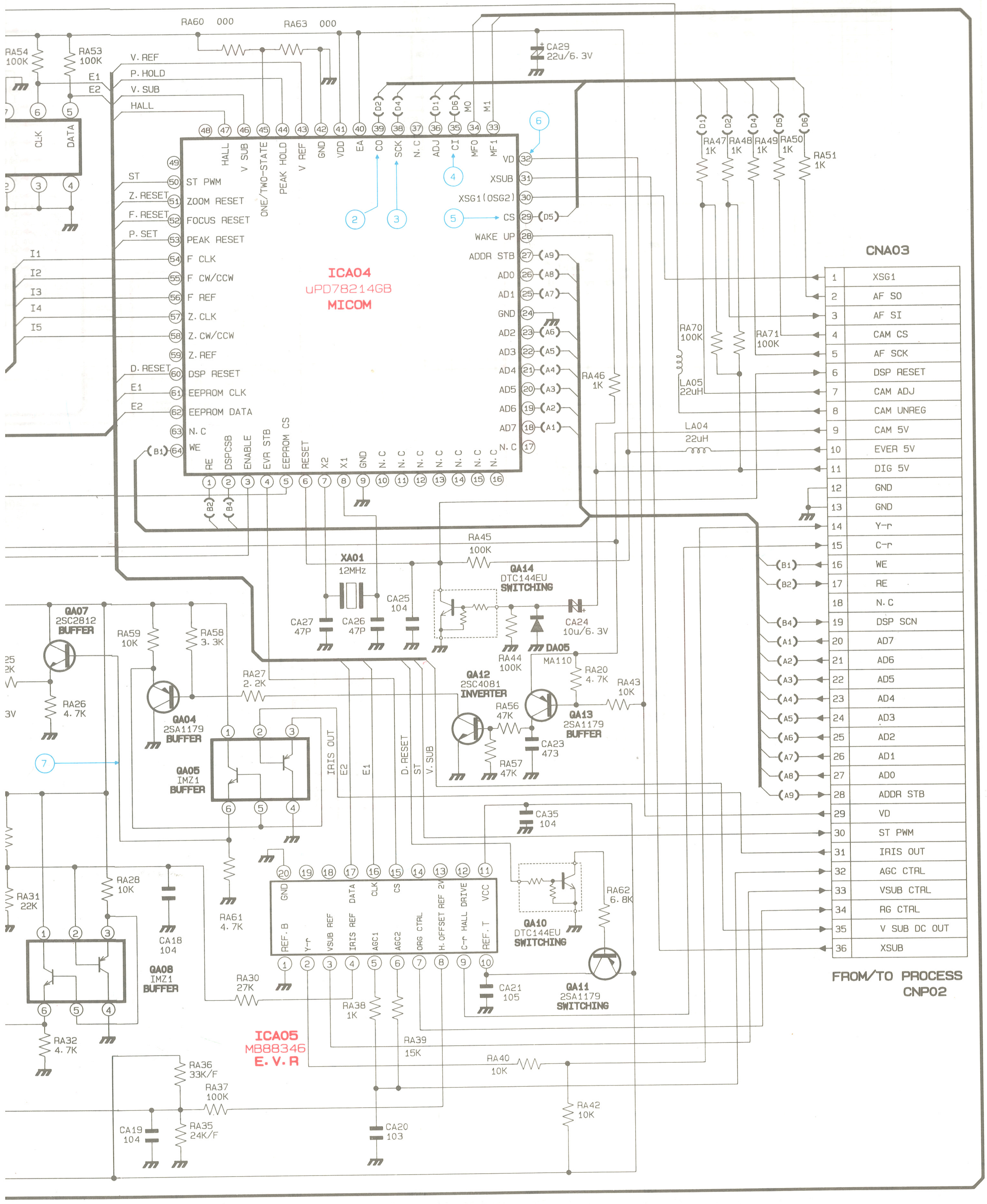


ICA04-35
CI

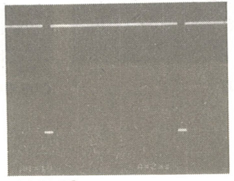
⑤



ICA04-29
CS

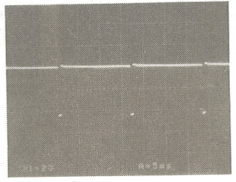

RA60 000
RA63 000
RA54 100K
RA53 100K
V. REF
P. HOLD
E1
E2
V. SUB
HALL
CA29 22u/6.3V
CLK
DATA
ST
Z. RESET
F. RESET
P. SET
I1
I2
I3
I4
I5
D. RESET
E1
E2
ICA04
uPD78214GB
MICOM
HALL
V SUB
ONE/TWO-STATE
PEAK HOLD
V REF
GND
VDD
EA
CO
SCK
N. C
ADJ
CI
MFO
MF1
VD
XSUB
XSG1(OSG2)
CS
WAKE UP
ADDR STB
AD0
AD1
GND
AD2
AD3
AD4
AD5
AD6
AD7
N. C
ST PWM
ZOOM RESET
FOCUS RESET
PEAK RESET
F CLK
F CW/CCW
F REF
Z. CLK
Z. CW/CCW
Z. REF
DSP RESET
EEPROM CLK
EEPROM DATA
N. C
WE
RE
DSPCSB
ENABLE
EVR STB
EEPROM CS
RESET
X2
X1
GND
D2
D4
D1
D6
M0
M1
D5
A1
A2
A3
A4
A5
A6
A7
A8
A9
B1
B2
B4
RA47 1K
RA48 1K
RA49 1K
RA50 1K
RA51 1K
RA70 100K
RA71 100K
LA05 22uH
LA04 22uH
RA46 1K
CNA03
1 XSG1
2 AF SO
3 AF SI
4 CAM CS
5 AF SCK
6 DSP RESET
7 CAM ADJ
8 CAM UNREG
9 CAM 5V
10 EVER 5V
11 DIG 5V
12 GND
13 GND
14 Y-r
15 C-r
16 WE
17 RE
18 N. C
19 DSP SCN
20 AD7
21 AD6
22 AD5
23 AD4
24 AD3
25 AD2
26 AD1
27 AD0
28 ADDR STB
29 VD
30 ST PWM
31 IRIS OUT
32 AGC CTRL
33 VSUB CTRL
34 RG CTRL
35 V SUB DC OUT
36 XSUB
FROM/TO PROCESS CNP02
RA45 100K
XA01 12MHz
CA25 104
CA27 47P
CA26 47P
QA14 DTC144EU SWITCHING
CA24 10u/6.3V
DA05 MA110
RA44 100K
RA20 4.7K
RA43 10K
QA12 2SC4081 INVERTER
RA56 47K
QA13 2SA1179 BUFFER
CA23 473
RA57 47K
QA07 2SC2812 BUFFER
RA59 10K
RA58 3.3K
RA27 2.2K
RA26 4.7K
QA04 2SA1179 BUFFER
QA05 IMZ1 BUFFER
IRIS OUT
E2
E1
D. RESET
ST
V. SUB
CA35 104
RA28 10K
RA31 22K
CA18 104
QA08 IMZ1 BUFFER
RA61 4.7K
RA30 27K
GND
DATA
CLK
CS
H. OFFSET REF 2V
VCC
REF. B
Y-r
VSUB REF
IRIS REF
AGC1
AGC2
ORG CTRL
H. OFFSET
C-r HALL DRIVE
REF. T
QA10 DTC144EU SWITCHING
RA62 6.8K
CA21 105
QA11 2SA1179 SWITCHING
RA38 1K
RA39 15K
RA40 10K
RA42 10K
ICA05
MB88346
E. V. R
RA32 4.7K
RA36 33K/F
RA37 100K
RA35 24K/F
CA19 104
CA20 103
RA25 2K
3V
①
②
③
④
⑤
⑥
⑦

⑤



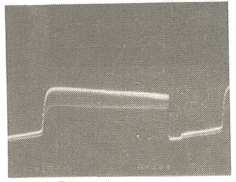
ICA04-29
CS

⑥



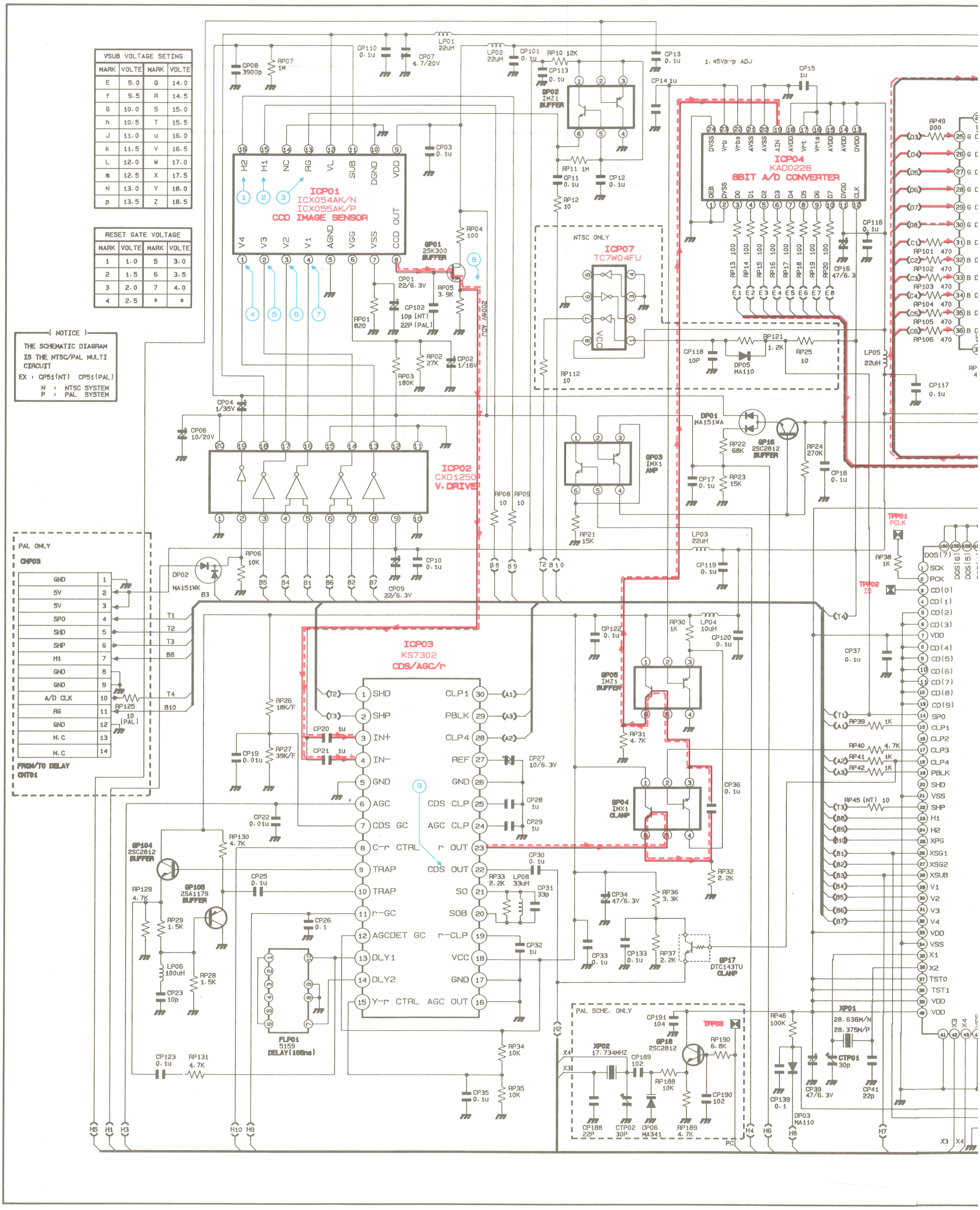
ICA04-32
VD

⑦



QA07-Base
WND

13-13. PROCESS


CHROMINANCE SIGNAL
LUMINANCE SIGNAL
ICP01
ICX054AK/N
ICX055AK/P
CCD IMAGE SENSOR
H2
H1
NC
RG
VL
SUB
DGND
VDD
V4
V3
V2
V1
AGND
VGG
VSS
CCD OUT
QP01
2SK300
BUFFER
QP02
IMZ1
BUFFER
ICP04
KAD0228
8BIT A/D CONVERTER
DVSS
Vrb
Vrbs
AVSS
AIN
AVDD
Vrt
Vrts
DVDD
DEB
CLK
1.45Vp-p ADJ
200mV ADJ
NTSC ONLY
ICP07
TC7W04FU
VCC
ICP02
CXD1250
V. DRIVE
QP03
IMX1
AMP
DP01
MA151WA
QP16
2SC2812
BUFFER
ICP03
KS7302
CDS/AGC/r
SHD
SHP
IN+
IN−
GND
AGC
CDS GC
C-r CTRL
TRAP
r−GC
AGCDET GC
DLY1
DLY2
Y-r CTRL AGC OUT
CLP1
PBLK
CLP4
REF
CDS CLP
AGC CLP
r OUT
CDS OUT
SO
SOB
r−CLP
VCC
QP05
IMZ1
BUFFER
QP04
IMX1
CLAMP
QP17
DTC143TU
CLAMP
QP104
2SC2812
BUFFER
QP105
2SA1179
BUFFER
FLP01
5159
DELAY(105ns)
PAL SCHE. ONLY
XP02
17.734MHZ
QP18
2SC2812
XP01
28.636M/N
28.375M/P
TPP01
PCLK
TPP02
ID
TPP03
PAL ONLY
CNP03
GND
5V
SPO
SHD
SHP
H1
A/D CLK
RG
N.C
FROM/TO DELAY
CNT01
DP02
MA151WK
DOS(7)
SCK
PCK
CD(0)
CD(1)
CD(2)
CD(3)
VDD
CD(4)
CD(5)
CD(6)
CD(7)
CD(8)
CD(9)
SPO
CLP1
CLP2
CLP3
CLP4
PBLK
SHD
VSS
SHP
H1
H2
XPG
XSG1
XSG2
XSUB
V1
V2
V3
V4
VDD
VSS
X1
X2
TSTO
TST1
VDD
VDD
LP01 22uH
LP02 22uH
LP03 22uH
LP04 10uH
LP05 22uH
LP06 100uH
LP08 33uH
CP01 22/6.3V
CP02 1/16V
CP03 0.1u
CP04 1/35V
CP06 10/20V
CP07 4.7/20V
CP08 3900p
CP09 22/6.3V
CP10 0.1u
CP101 0.1u
CP102 10p(NT) 22P(PAL)
CP110 0.1u
RP01 820
RP02 27K
RP03 180K
RP04 100
RP05 3.9K
RP06 10K
RP07 1M
RP10 12K
RP11 1M
RP12 10
RP112 10
RP121 1.2K
RP22 68K
RP23 15K
RP24 270K
RP25 10
RP26 18K/F
RP27 39K/F
RP125 10 (PAL)
RP130 4.7K
RP129 4.7K
RP29 1.5K
RP28 1.5K
RP131 4.7K
RP31 4.7K
RP32 2.2K
RP33 2.2K
RP34 10K
RP35 10K
RP36 3.3K
RP37 2.2K
RP38 1K
RP39 1K
RP40 4.7K
RP41 1K
RP42 1K
RP45 (NT) 10
RP46 100K
RP49 000
RP101 470
RP102 470
RP103 470
RP104 470
RP105 470
RP106 470
RP188 10K
RP189 4.7K
RP190 6.8K
CP13 0.1u
CP14 1u
CP15 1u
CP16 47/6.3
CP17 0.1u
CP18 0.1u
CP19 0.01u
CP20 1u
CP21 1u
CP22 0.01u
CP23 10p
CP25 0.1u
CP26 0.1
CP27 10/6.3V
CP28 1u
CP29 1u
CP30 0.1u
CP31 33p
CP32 1u
CP33 0.1u
CP34 47/6.3V
CP35 0.1u
CP36 0.1u
CP37 0.1u
CP39 47/6.3V
CP41 22p
CP113 0.1u
CP116 0.1u
CP117 0.1u
CP118 10P
CP119 0.1u
CP120 0.1u
CP122 0.1u
CP123 0.1u
CP133 0.1u
CP139 0.1
CP188 22P
CP189 102
CP190 102
CP191 104
CTP01 30p
CTP02 30P
DP03 MA110
DP05 MA110
DP06 MA341
RP13 100
RP14 100
RP15 100
RP16 100
RP17 100
RP18 100
RP19 100
RP20 100

VSUB VOLTAGE SETING			
MARK	VOLTE	MARK	VOLTE
E	9.0	Q	14.0
f	9.5	R	14.5
G	10.0	S	15.0
h	10.5	T	15.5
J	11.0	u	16.0
k	11.5	V	16.5
L	12.0	W	17.0
m	12.5	X	17.5
N	13.0	Y	18.0
p	13.5	Z	18.5

RESET GATE VOLTAGE			
MARK	VOLTE	MARK	VOLTE
1	1.0	5	3.0
2	1.5	6	3.5
3	2.0	7	4.0
4	2.5	*	*

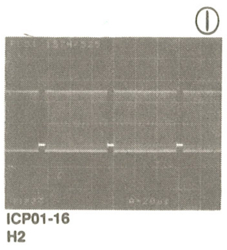
(NOTICE)

THE SCHEMATIC DIAGRAM IS THE NTSC/PAL MULTI CIRCUIT

EX : CP51(NT) CP51(PAL)

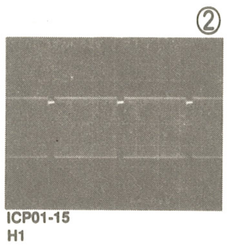
N : NTSC SYSTEM
P : PAL SYSTEM

①



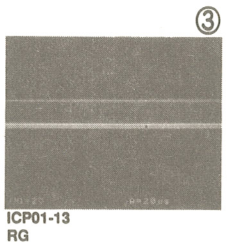
ICP01-16
H2

②



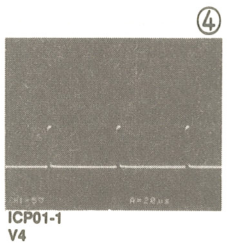
ICP01-15
H1

③



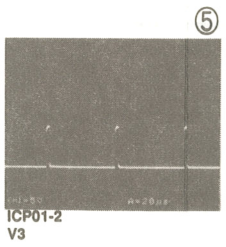
ICP01-13
RG

④



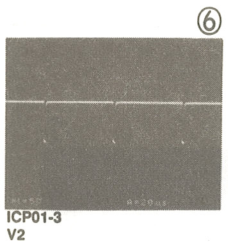
ICP01-1
V4

⑤



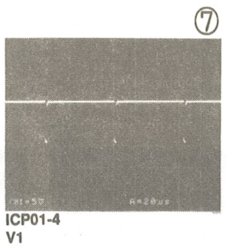
ICP01-2
V3

⑥



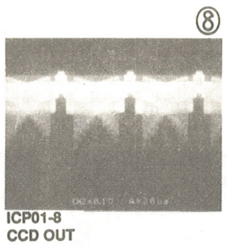
ICP01-3
V2

⑦

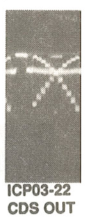


ICP01-4
V1

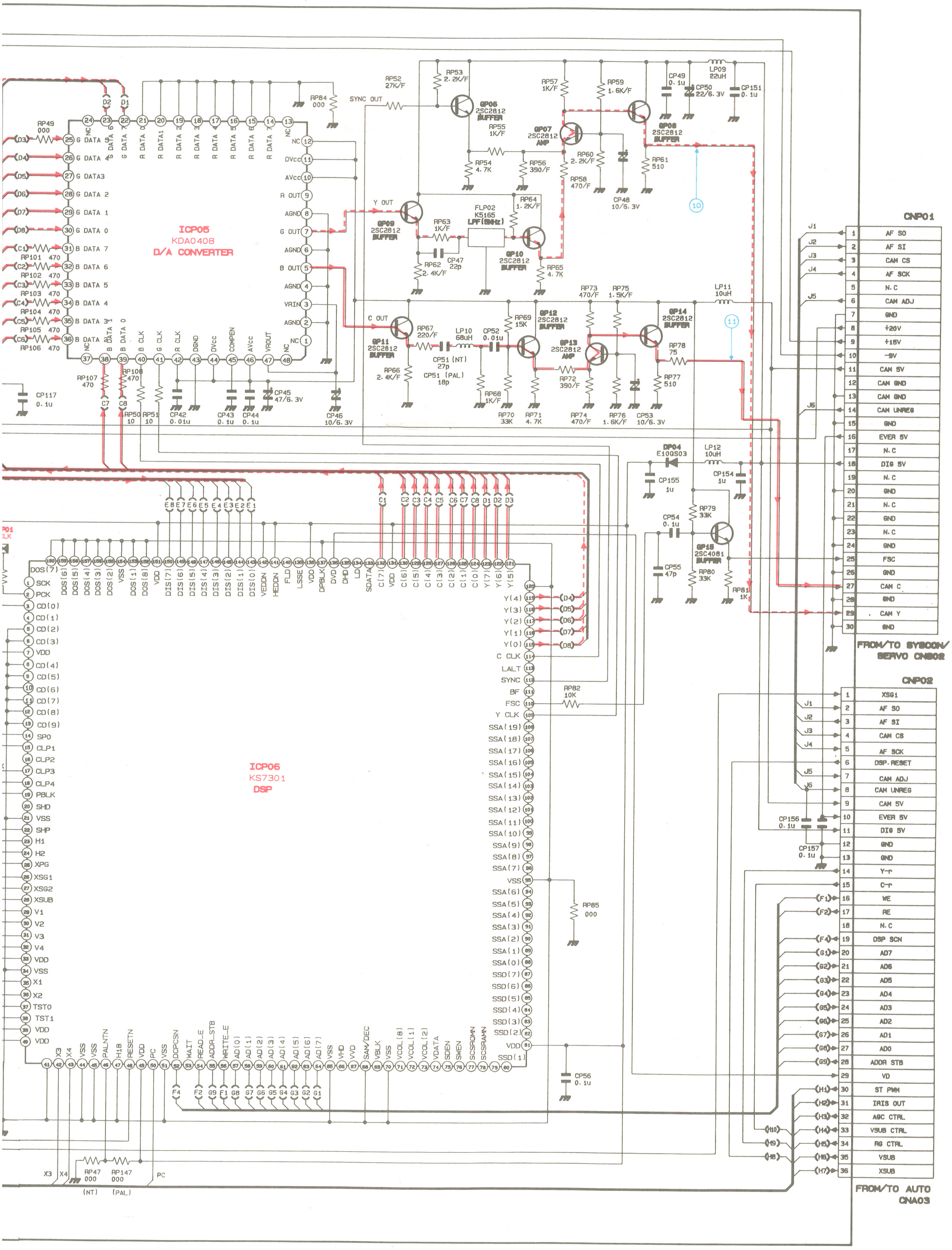
⑧



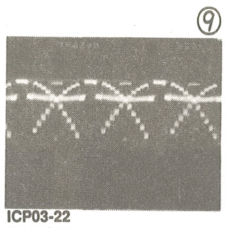
ICP01-8
CCD OUT



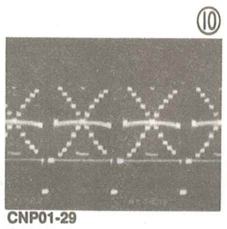
ICP03-22
CDS OUT


ICP05
KDA0408
D/A CONVERTER
ICP06
KS7301
DSP
QP06 2SC2812 BUFFER
QP07 2SC2812 AMP
QP08 2SC2812 BUFFER
QP09 2SC2812 BUFFER
QP10 2SC2812 BUFFER
QP11 2SC2812 BUFFER
QP12 2SC2812 BUFFER
QP13 2SC2812 AMP
QP14 2SC2812 BUFFER
QP15 2SC4081 BUFFER
FLP02 K5165 LPF(6MHz)
DP04 E100S03
SYNC OUT
Y OUT
C OUT
CNP01
1 AF SO
2 AF SI
3 CAM CS
4 AF SCK
5 N.C
6 CAM ADJ
7 GND
8 +20V
9 +15V
10 -9V
11 CAM 5V
12 CAM GND
13 CAM GND
14 CAM UNREG
15 GND
16 EVER 5V
17 N.C
18 DIG 5V
19 N.C
20 GND
21 N.C
22 GND
23 N.C
24 GND
25 FSC
26 GND
27 CAM C
28 GND
29 CAM Y
30 GND
FROM/TO SYSCON/SERVO CNS02
CNP02
1 XSG1
2 AF SO
3 AF SI
4 CAM CS
5 AF SCK
6 DSP.RESET
7 CAM ADJ
8 CAM UNREG
9 CAM 5V
10 EVER 5V
11 DIG 5V
12 GND
13 GND
14 Y-T
15 C-T
16 WE
17 RE
18 N.C
19 DSP SCN
20 AD7
21 AD6
22 AD5
23 AD4
24 AD3
25 AD2
26 AD1
27 AD0
28 ADDR STB
29 VD
30 ST PWM
31 IRIS OUT
32 AGC CTRL
33 VSUB CTRL
34 RG CTRL
35 VSUB
36 XSUB
FROM/TO AUTO CNA03

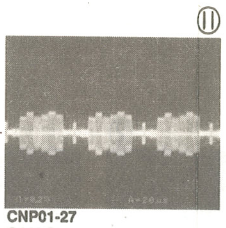
⑧


⑨

ICP03-22
CDS OUT


⑩

CNP01-29
CAM Y


⑪

CNP01-27
CAM C